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THIRD ANNUAL REPORT

OF THE



*CONSUMPTIVES'*  
*HOSPITAL*  
*DEPARTMENT*

OF THE CITY OF BOSTON

FOR THE YEAR ENDING

JANUARY 31, 1909





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CITY OF BOSTON  
PRINTING DEPARTMENT  
1909

CITY OF BOSTON.

CONSUMPTIVES' HOSPITAL DEPARTMENT.

Office, 926 TREMONT BUILDING.

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BOARD OF TRUSTEES.

EDWARD F. MCSWEENEY, <i>Chairman</i> ,	term expires	April 30,	1911.
MRS. J. J. O'CALLAGHAN,	"	"	1910.
DR. JAMES J. MINOT,	"	"	1910.
ISABEL F. HYAMS,	"	"	1914.
DR. JOHN F. O'BRIEN,	"	"	1913.
CHANDLER HOVEY,	"	"	1913.
HERBERT F. PRICE, <i>Secretary</i> ,	"	"	1912.

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*Superintendent.*

SIMON F. COX, M. D.

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VISITING MEDICAL STAFF.

*Chief of Staff.*

EDWIN A. LOCKE, M. D.

---

*First Assistant.*

TIMOTHY J. MURPHY, M. D.

---

*Pathologist.*

WILLIAM T. COUNCILMAN, M. D.

# OUT-PATIENT DEPARTMENT.

13 Burroughs Place.

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## SUPERINTENDENT.

SIMON F. COX, M. D.

---

## VISITING MEDICAL STAFF.

### *Chief of Staff.*

EDWIN A. LOCKE, M. D.

---

### *First Assistant.*

TIMOTHY J. MURPHY, M. D.

---

### *Second Assistant, Director of Out-Patient Clinic.*

CLEAVELAND FLOYD, M. D.

---

### *Assistant Physicians.*

BRADFORD KENT, M. D.

HENRY I. BOWDITCH, M. D.

LOUIS MENDELSON, M. D.

HORACE K. BOUTWELL, M. D.

ALBERT EHRENFRIED, M. D.

WALTER C. BAILEY, M. D.

WILLISTON W. BARKER, M. D.

MICHAEL J. CRONIN, M. D.

ANDREW F. DOWNING, M. D.

NATHANIEL K. WOOD, M. D.

### *Laryngological Assistants.*

JOHN T. SULLIVAN, M. D.

CHARLES E. SHAY, M. D.

---

### *Superintendent of Nurses.*

ELISABETH P. UPJOHN.

---

### *Assistant Physicians, Mattapan.*

DAVID TOWNSEND, M. D.

RICHARD H. HOUGHTON, M. D.



AN ORDINANCE CREATING A CONSUMPTIVES' HOSPITAL DEPARTMENT, AND REPEALING CHAPTER 6 OF THE ORDINANCES OF 1903, AND AMENDING SECTION 1 OF CHAPTER 2 OF THE REVISED ORDINANCES OF 1898.

*Be it ordained by the City Council of Boston, as follows:*

SECTION 1. The Consumptives' Hospital Department shall be under the charge of a board of seven trustees, who shall be legal residents of Boston, and at least two of whom shall always be women, to be appointed by the mayor. During the current year one of said trustees shall be appointed for the term of five years, two for the term of four years, one for the term of three years, two for the term of two years, and one for the term of one year, beginning with the first day of May in the year 1906, and hereafter in the year in which any term or terms shall expire, a trustee or trustees shall be appointed for the term of five years, beginning with the first day of May in the year of appointment. Any vacancy occurring among said trustees shall be filled by appointment of a trustee as aforesaid for the remainder of the term. Said trustees shall serve without compensation, but all expenses reasonably incurred by them in the performance of their duty shall be paid, if approved by a recorded vote of the board of trustees. They shall organize the first day of May in each year, or as soon thereafter as may be, by the choice of a chairman, who shall be one of their number, and of a secretary, who may, or may not, at their discretion, be one of their number. No trustee, nor any person in the employ of said trustees, shall be interested in a private capacity, directly or indirectly, in any contract or agreement for labor or for articles furnished for said department. Said trustees shall have charge of the expenditure of one hundred and fifty thousand dollars, to be raised by a loan heretofore authorized, and shall have authority to purchase land suitable for such a hospital.

The said trustees shall have authority to erect upon said land and to furnish in a suitable manner a building or buildings suitable for a consumptives' hospital, the total expenditure for such purposes not to exceed the amount of said loan. They shall, after the erection and furnishing of said building or build-

ings, have charge of the same and the care and maintenance thereof, shall purchase all food and other supplies needed therefor, shall make all needful improvements to the lands and grounds connected with said hospital, shall have charge of all real estate held for purposes connected with said hospital, and pay, or cause to be paid, to the city collector any income thereof.

SECT. 2. Said trustees shall admit to said consumptives' hospital only persons who have been inhabitants of Boston for at least two years preceding the date of their application for admission to said hospital, preference to be given to those persons having a legal settlement in Boston. The trustees shall have power to make all necessary rules and regulations for the carrying on of said hospital and for the admission of patients. The charges for the support of such inmates of said hospital as are of sufficient ability to pay for the same, or have persons or kindred bound by law to maintain them, shall be paid by such inmates, persons or kindred at a rate to be determined by the trustees of said hospital, and all amounts so received shall be paid to the city collector.

SECT. 3. Said trustees shall, in their annual report, include a statement of the conditions of the hospital, the number of its inmates, the admissions thereto and the discharges therefrom, and the deaths therein during the year.

SECT. 4. Chapter 2 of the Revised Ordinances of 1898 is amended in section 1 by inserting after the words "Bath Trustees" the words "Consumptives' Hospital Trustees."

SECT. 5. Chapter 6 of the Ordinances of 1903 is hereby repealed.

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#### CHAPTER 189 OF THE ACTS OF 1906.

#### AN ACT RELATIVE TO THE CARE OF TUBERCULOSIS PATIENTS IN THE CITY OF BOSTON.

*Be it enacted, etc., as follows:*

SECTION 1. The trustees of the new hospital for consumptives in the city of Boston, pending the erection of said hospital, are hereby authorized to hire not more than one hundred beds in private hospitals, and to pay not more than five dollars a week each for the same, for the use of needy tuberculosis patients who are residents of the said city.

SECT. 2. This act shall take effect upon its passage.

*[Approved March 24, 1906.]*



## CHAPTER 248 OF THE ACTS OF 1907.

AN ACT RELATIVE TO THE HIRING OF BEDS IN PRIVATE HOSPITALS FOR TUBERCULOUS PATIENTS IN THE CITY OF BOSTON.

*Be it enacted, etc., as follows:*

SECTION 1. Section one of chapter one hundred and eighty nine of the acts of the year nineteen hundred and six is hereby amended by striking out the word "five" in the fifth line, and inserting in place thereof the word "eight," so as to read as follows: — *Section 1.* The trustees of the new hospital for consumptives in the city of Boston, pending the erection of said hospital, are hereby authorized to hire not more than one hundred beds in private hospitals, and to pay not more than eight dollars a week each for the same, for the use of needy tuberculous patients who are residents of the said city.

SECT. 2. This act shall take effect upon its passage.

[*Approved March 28, 1907.*

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## CHAPTER 225 OF THE ACTS OF 1908.

AN ACT TO AUTHORIZE THE TRUSTEES OF THE NEW HOSPITAL FOR CONSUMPTIVES IN THE CITY OF BOSTON TO HIRE BEDS IN PRIVATE HOSPITALS.

*Be it enacted, etc., as follows:*

SECTION 1. The trustees of the new hospital for consumptives in the city of Boston are hereby authorized to hire beds in private hospitals for the use of needy tuberculous patients who are residents of said city, until the said new hospital is completed; but the said beds shall not exceed one hundred in number, and the price paid therefor shall not exceed eight dollars a week for each bed.

SECT. 2. This act shall take effect upon its passage.

[*Approved March 14, 1908.*

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ORDINANCES OF 1909, CHAPTER 4, CONCERNING ADMISSION TO THE CONSUMPTIVES' HOSPITAL.

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In the Year One Thousand Nine Hundred and Nine.

AN ORDINANCE TO AMEND CHAPTER FOUR OF THE ORDINANCES OF 1906 CONCERNING CONSUMPTIVES' HOSPITAL.

*Be it ordained by the City Council of Boston, as follows:*

Section two of chapter four of the ordinances of nineteen hundred and six is hereby amended by striking out in the



second, third, fourth and fifth lines thereof the words “have been inhabitants of Boston for at least two years preceding the date of their application for admission to said hospital, preference to be given to those persons having a legal settlement in Boston,” and inserting in place thereof the words “are *bona fide* residents of Boston at the time of application for admission to the said hospital.”



ANNUAL REPORT  
OF THE  
CONSUMPTIVES' HOSPITAL DEPARTMENT  
FOR THE YEAR 1908-09.

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BOSTON, February 1, 1909.

HON. GEORGE A. HIBBARD,

*Mayor of the City of Boston:*

SIR,—The report of the Consumptives' Hospital Department for the year ending January 31, 1909, is respectfully submitted herewith.

As provided by law the Board of Trustees met on May 8, 1909, and organized for the year by the election of Edward F. McSweeney, chairman, and Herbert F. Price, secretary.

Many delays have arisen in the construction work of the main building, power house and tunnel, and in consequence the date of opening these buildings will be much later than contemplated.

The Day Camp opened in July has proved its value and justified the expense in every way. The cost of erection with equipment, including a large kitchen, was \$16,634.22. The cold weather of November proved that it would be impossible to maintain the Day Camp without providing some heated rooms wherein the patients could assemble preparatory to meals and examination, and consequently a small heating plant was installed at a cost of \$1,890.17.

Plans for an open-air cottage for men were completed in

the early part of the year, and contracts have been let for the construction of this cottage at a cost of \$12,853.39.

The main sewer connecting with the sewer in River street was completed for a distance of about 1,200 feet. An addition was made for extension of this sewer to connect with the ward buildings at a cost of \$1,287.13.

The work in the roadway was resumed in the spring and a contract calling for its completion was made at a cost of \$7,495.90. This included the placing of the water main in position. The road contract includes land drains to drain the road and first ward building.

A second sewer connecting with the River street sewer was completed at a cost of \$1,166.81. This sewer serves the barn, Conness House and outbuildings, and can be extended to meet future demands from the vicinity of these buildings.

A second water main was installed near the line of this sewer at a cost of \$956.54. This will provide a hydrant service in case of fire as well as supply the domestic needs of these scattered buildings, present and future.

The Out-Patient Department at 13 Burroughs place has extended the work begun last year and 2,433 new patients were admitted during the year. Seven thousand ninety-eight old cases returned, making a total attendance for the year of 9,531.

Two hundred seventy-nine patients were admitted to the Day Camp since the opening in July.

Three hundred fifty-two patients have been treated in various hospital beds contracted for by the department, as allowed by law.

This department prepared an exhibit for the International Congress on Tuberculosis held at Washington in October, and received a silver medal for exhibit on Out-Patient Department, also a silver medal — the highest award given in the class — for plans for hospital for advanced cases.

The Out-Patient Department at 13 Burroughs place has been outgrown and additional room should be provided for the work.

In connection with the department is the staff of visiting



nurses, whose work in the homes has been of great worth in the work of caring for the consumptives.

Plans and specifications for a second ward building are under way sufficiently to advertise for bids just as soon as additional appropriation is granted.

A domestic building to contain sleeping quarters for employees, dining rooms, storeroom and kitchen should be erected, and money for this purpose will be included in the request for loan.

A cottage for women similar to that for men should be erected. This also will be asked for in the loan. Considerable improvement is needed in way of grading, roads and drains about and to the various buildings.

The trustees of the Boston Consumptives' Hospital sustain harmonious relations with other departments having to do with the people's health. Without any attempt to criticise a sister department, and solely as an indictment of the way that general health work in Boston is being done, it should be said that many changes to make for unity of effort in health work should be introduced. Many of the processes necessary to clean up unsanitary tenements and to do away with causes making for disease are unbusinesslike. The disinfection work of the Board of Health is on the whole good and to be compared favorably with other large cities in the United States, but the system of reporting cases of diseases is inadequate, and the tendency of all the Boston health work is to begin action at the wrong end. Instead of going directly to the cause of disease and preventing it before it begins, we are attempting at a large expense to patch up a decrepid manhood and womanhood which have become incapacitated by reason of municipal neglect.

The money appropriated for the Consumptives' Hospital work up to date has been \$315,000. Before our department shall have reached its maximum capacity it will require a capital expenditure of at least \$500,000 additional.

After an experience of two years it is apparent to all those concerned in the work against tuberculosis that the state is not doing its full duty in enforcing the laws now on the statute books. While Boston is complying with the law, in as far

as it is able, only eight, at most, of other cities and towns are doing likewise. Instead of enforcing the health laws on the statute books, which give the State Board of Health ample authority and power in this matter, palliatives in the way of new legislation are being constantly devised and introduced which only give encouragement to those cities and towns not enforcing the law to continue in their course.

The measures of relief in the line of consumptive work which are inaugurated by the state, while worthy in themselves, are not adequate, and to be successful must be extended at a cost which would be entirely prohibitive; but the first result of this policy has been not only to make Boston pay the bills for its own work being done in compliance with the law, but it must also meet large additional obligations on account of the work which the state is doing and from which it will get only the minimum of return.

The absolutely essential need of tuberculosis work in Massachusetts is organization and unity of action, and, as one way of accomplishing this, the appointment of a state commission to investigate the whole question of tuberculosis work being done by cities and towns is suggested, which will rearrange not only tuberculosis but other health work on a basis which will bring unity of action between the state and the cities and towns, and make a fair distribution of the expenses thereof.

Until this is done the City of Boston will be wise in going slow in making additional appropriations for tuberculosis work, for the reason that sooner or later the state must do something to reorganize the methods of its tuberculosis work which will compel all cities and towns to do what Boston is doing; or, if this is not done, to take over the buildings which Boston has erected and reimburse the city for what it has expended to date.

EDWARD F. MCSWEENEY.  
MARGARET G. O'CALLAGHAN.  
JAMES J. MINOT.  
ISABEL F. HYAMS.  
CHANDLER HOVEY.  
JOHN F. O'BRIEN.  
HERBERT F. PRICE.



REPORT OF THE MEDICAL STAFF.

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BOSTON, January 31, 1909.

*To the Trustees of the Boston Consumptives' Hospital:*

As chief of staff I have the honor to submit the following medical report for the year ending January 31, 1909.

In preparing the report for the past year I have attempted to present a full account of all the work done and to apply the experience gained in the various departments during the year to the program for future activity. The detailed plan of action outlined in the previous report, though largely based on well-established facts and on the experience of other communities in the same work, was of necessity in part theoretical. The actual experience on a large scale gained during the past year in the various activities inaugurated by the Boston Consumptives' Hospital affords an opportunity to test the practical value of that plan, and should serve as a basis for revisal and additions. Sufficient careful records have accumulated to warrant the study of statistics of our work, and I have therefore given considerable space to an account of the results obtained from such a study.

In last year's report great emphasis was laid on the complexity of the problem and the necessity for united action on the part of the diverse agencies acting in this special field. It was there shown that the responsibility for such an undertaking cannot be assumed by any individual or private agencies, but must fall upon the community. Attention was especially directed to the astonishing financial loss to the city from the disease and to the fact that any expenditures, however large, made by the city in an attempt to control it may justly be looked upon as a certain investment. The great cost of the campaign organized and the grave difficulties to be overcome were fully described. While recognizing the duty of the city to care for its consumptive poor, the all-

important fact was made prominent, that in the use of preventive methods lies the only hope of control of the disease. Isolation of a considerable percentage of the most advanced consumptives was considered as one of the first essentials in the work of the hospital.

Through the work in the various departments of the Boston Consumptives' Hospital during the past year new proof of the above principles has constantly come to the front, and as a result we are now more than ever before fully warranted in taking such a definite stand. The application of the results of the year's work will be shown later.

#### THE INCIDENCE OF TUBERCULOSIS IN BOSTON.

During the year 1908 a somewhat more exact idea of the number of consumptives in Boston has been gained, though, as previously, it must be admitted that any statement in this regard is largely a matter of conjecture. In consequence of the failure on the part of the health authorities to strictly enforce the law making compulsory the reporting by the physicians of the community of every case of tuberculosis, the matter is practically left optional, and there is no evidence to show that even the majority of cases of tuberculosis is reported to the Board of Health. Notwithstanding this condition of affairs, however, approximately 5,540 cases are at present known to the Board. Considering the frequency with which unsuspected tuberculosis is found in the course of the dispensary work, an estimate of a total of 15,000 cases in the city seems conservative. A commission recently appointed by the Boston School Committee to study the question of the prevalence of tuberculosis among school children in the city in its report stated as its conviction that there are at least 5,000 children in the City of Boston suffering from tuberculosis in some form. If this estimate be shown to be exact, then the total number of tuberculous individuals in the city must be far in excess of 15,000.

The following table gives the number of deaths as reported to the Board of Health, both male and female, from all forms of tuberculosis, occurring in Boston during the year ending January 31, 1909:



	Males.	Females.	Total.
Tuberculosis of the lungs.....	598	463	1,061
Tuberculous meningitis.....	98	71	169
Tuberculosis, abdominal.....	16	19	35
Tuberculosis of the larynx.....	5	1	6
Tuberculosis of other organs.....	4	2	6
Tuberculosis, generalized.....	14	12	26
Totals.....	735	568	1,303

NOTE.— Through the courtesy of the Board of Health we are permitted to use the statistics for the year 1908 prior to the appearance of its annual report.

Most gratifying is the continued fall in the death rate from phthisis, as well as from all forms of tuberculosis, during the year 1908.

The following table gives the annual death rate in Boston, per 10,000 inhabitants, from pulmonary tuberculosis, since 1882:

1882.....	42.26	1896.....	25.72
1883.....	40.86	1897.....	24.37
1884.....	40.11	1898.....	22.90
1885.....	39.01	1899.....	22.27
1886.....	40.08	1900.....	25.08
1887.....	36.98	1901.....	23.71
1888.....	34.51	1902.....	21.70
1889.....	32.80	1903.....	21.10
1890.....	33.34	1904.....	21.76
1891.....	29.53	1905.....	20.56
1892.....	30.26	1906.....	19.67
1893.....	28.60	1907.....	18.42
1894.....	29.27	1908.....	17.29
1895.....	26.92		

As will be seen, the death rate from the disease has fallen from 42.26, in 1882, to 17.29, per 10,000 inhabitants, in 1908, or approximately 57 per cent. During the same period the total death rate from all causes has also shown a nearly constant downward tendency, *i. e.*, from 240.7, in 1882, to 190.7, per 10,000, in 1908, or 20.8 per cent, a fall which is hardly more than one-third as great as in the case of the phthisis

death rate. In 1882 the death rate from phthisis for all ages was 17.6 per cent of the total death rate, while in 1908 it had fallen to 9 per cent.

The full significance of the high death rate from consumption is made more evident by a consideration of the total number of deaths from the disease. Since 1882, 36,915 individuals in Boston have died of pulmonary tuberculosis. The diminution in the death rate from the disease above noted since 1882, or for a period of twenty-six years, has meant the actual saving of 20,459 lives. This saving in human life year by year is represented graphically in Chart 1.

The decrease in the death rate from pulmonary tuberculosis in Boston is made even more striking by a comparison with the changes in the same death rate for a uniform period in other large cities. These statistics were kindly furnished me by Professor Farrand, secretary of the National Association for the Study and Prevention of Tuberculosis.

#### American Cities.

	Number of Deaths from Phthisis per 10,000 Inhabitants.		Percentage of Decrease in 17 Years.
	1890.	1907.	
Boston.....	37.57	18.86	49.80
Milwaukee.....	18.39	11.94	35.07
Detroit.....	16.22	10.80	33.41
Buffalo.....	18.62	12.67	31.95
Washington.....	35.90	24.57	31.56
Pittsburg.....	14.92	11.20	24.93
Baltimore.....	29.30	23.17	20.92
Philadelphia.....	27.96	22.24	20.45
Cleveland.....	15.88	13.41	15.55
Cincinnati.....	28.02	23.68	15.49
New Orleans.....	34.37	30.41	11.52
New York.....	23.55	21.08	10.49
St. Louis.....	18.46	17.08	7.48
Chicago.....	17.59	16.66	4.72

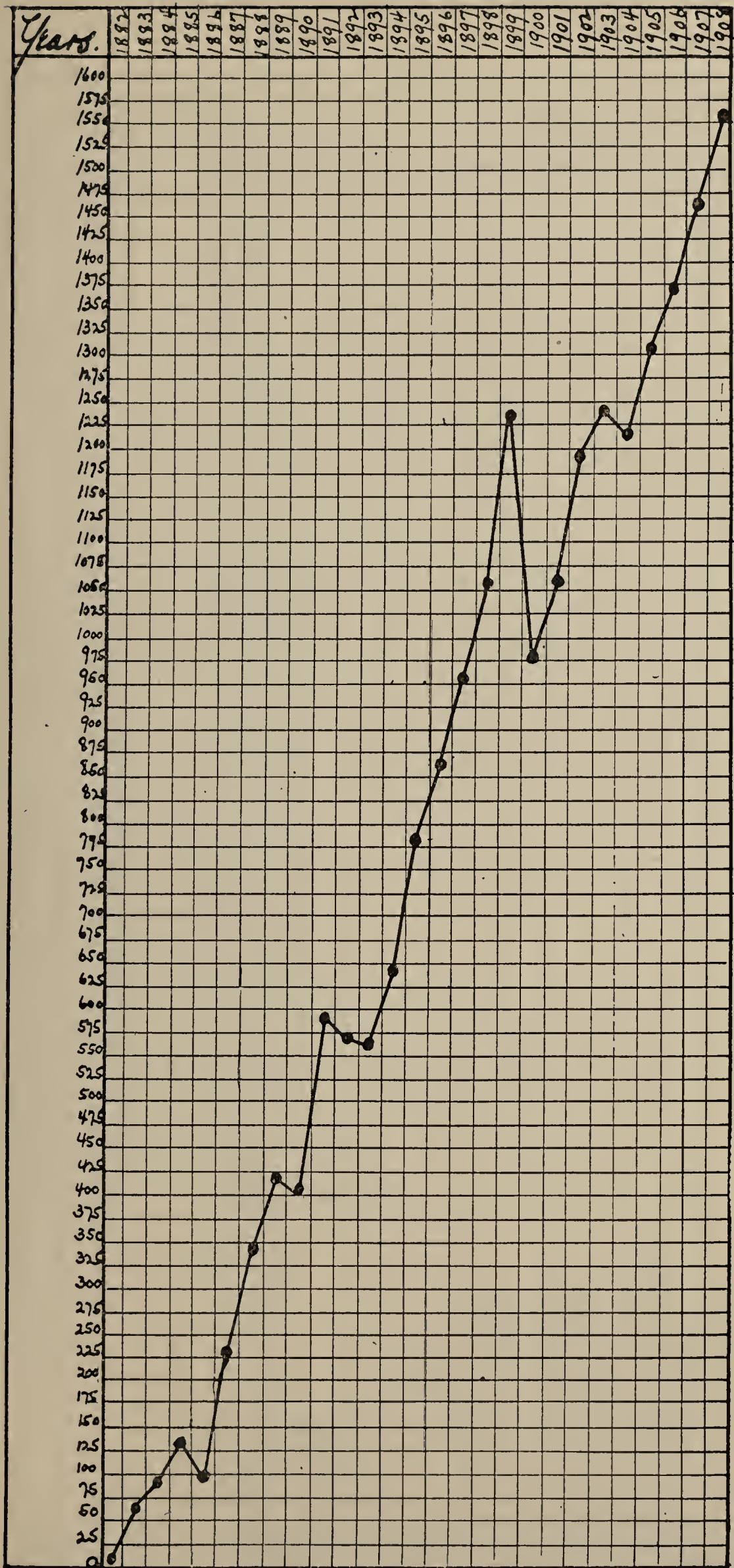


CHART I.—SHOWING ACTUAL SAVING OF LIFE IN BOSTON SINCE 1882, RESULTING FROM THE DECREASE IN THE PHTHISIS DEATH RATE.







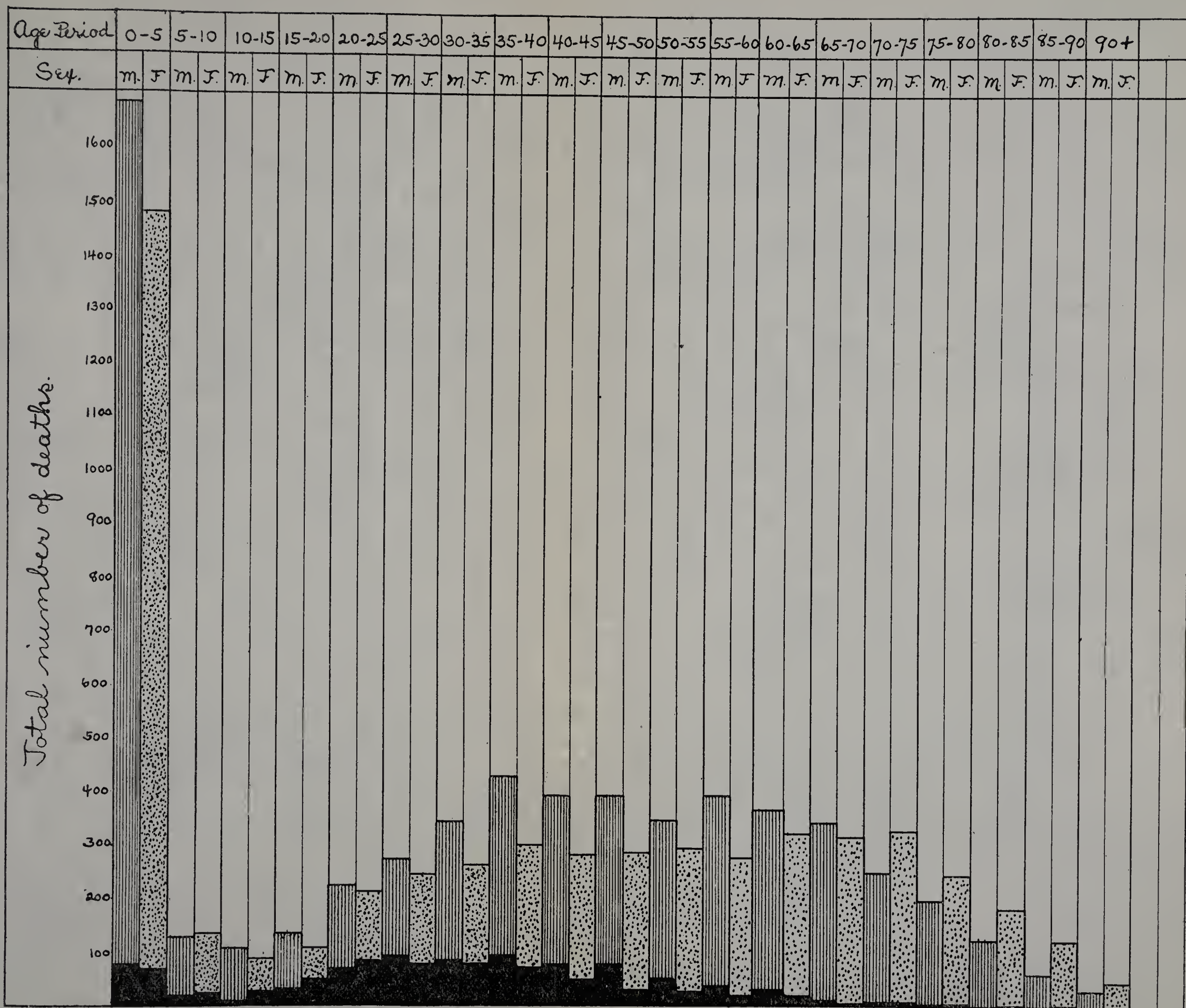


CHART 2.—SHOWING THE RELATION OF THE DEATHS FROM CONSUMPTION TO THE TOTAL NUMBER OF DEATHS FROM ALL CAUSES IN BOSTON FOR THE YEAR 1907, FOR EACH AGE PERIOD, ARRANGED ACCORDING TO SEX.



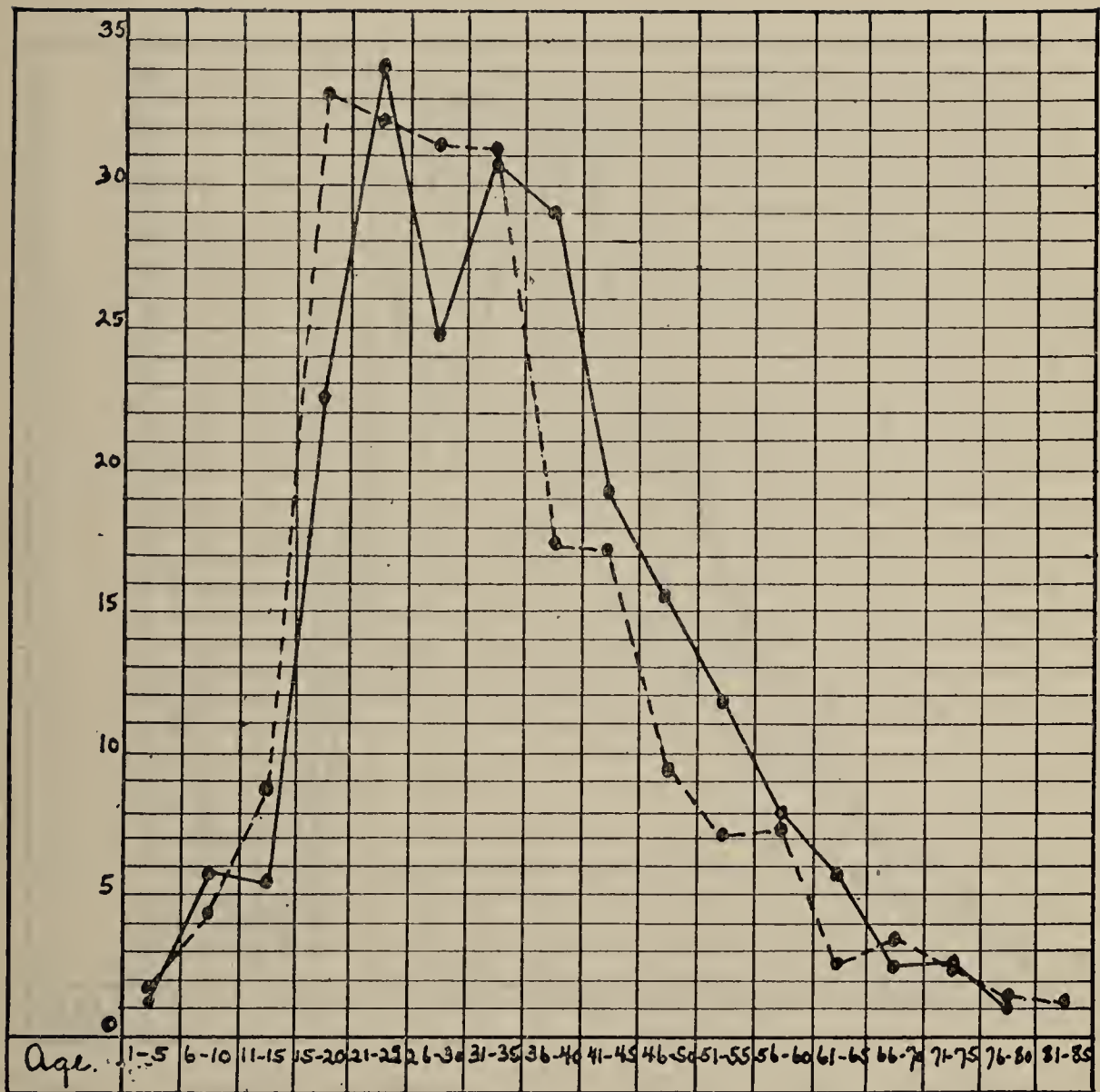


CHART 3.—PERCENTAGE OF ALL DEATHS AT EACH AGE PERIOD DUE TO PHTHISIS. BOSTON, 1908.

— Males.

- - - Females.



Figure 1



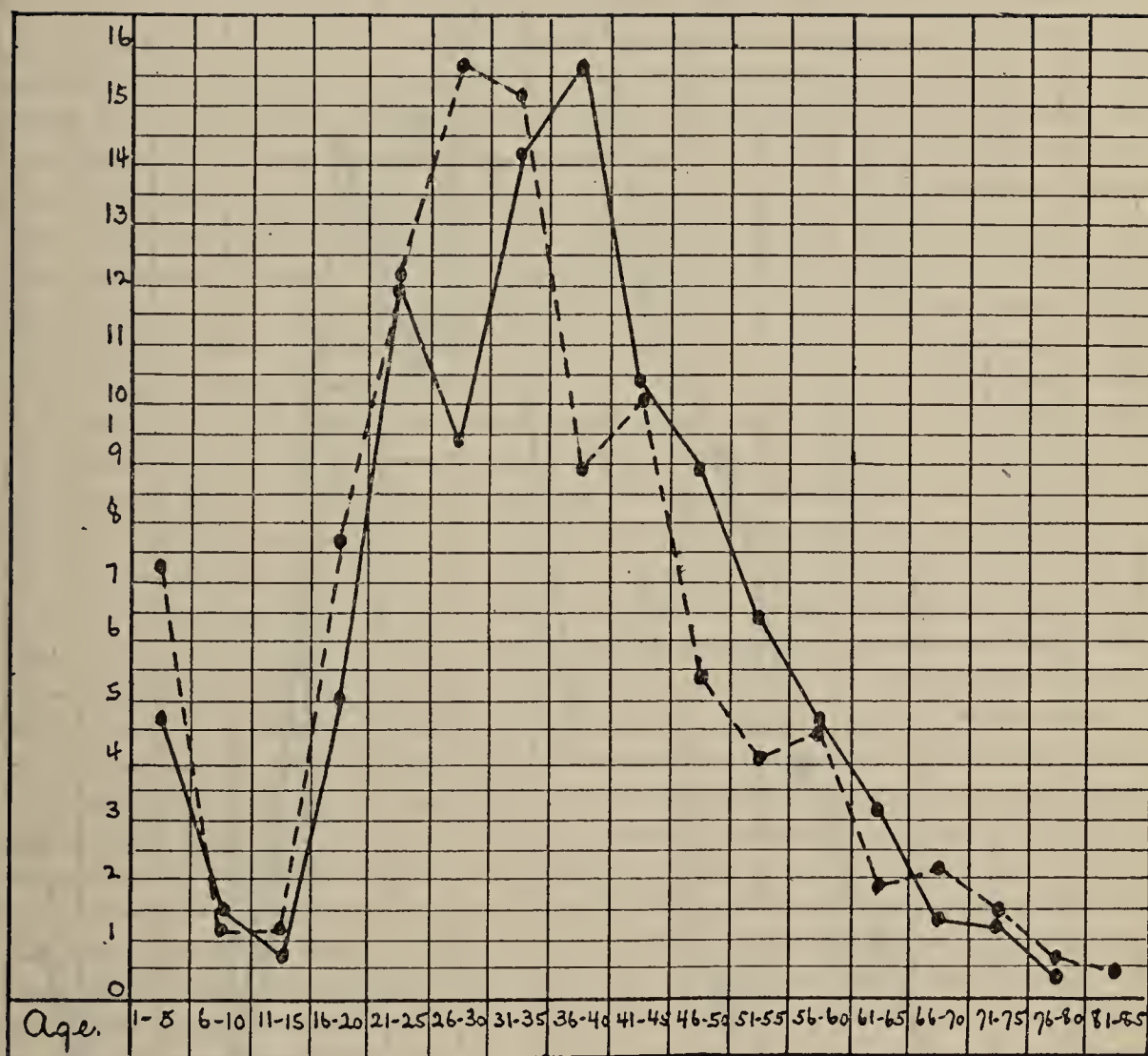


CHART 4.—NUMBER OF DEATHS FROM PHTHISIS AT EACH AGE PERIOD PER 100 DEATHS FROM PHTHISIS AT ALL AGES. BOSTON, 1908.

— Males.

- - - Females.



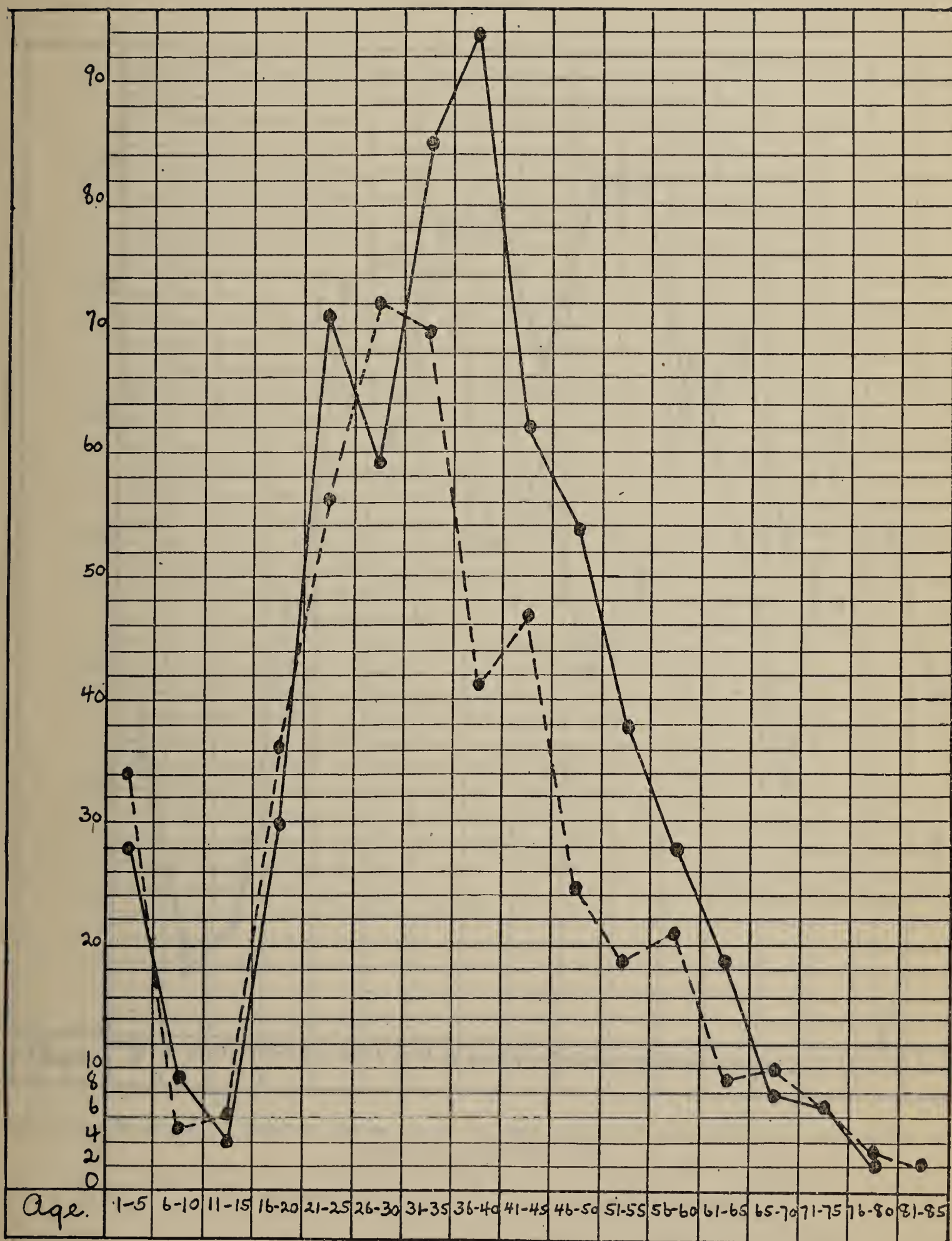


CHART 5.—ACTUAL NUMBER OF DEATHS FROM PHTHISIS AT EACH AGE PERIOD. BOSTON, 1908.

———— Males.

- - - - Females,





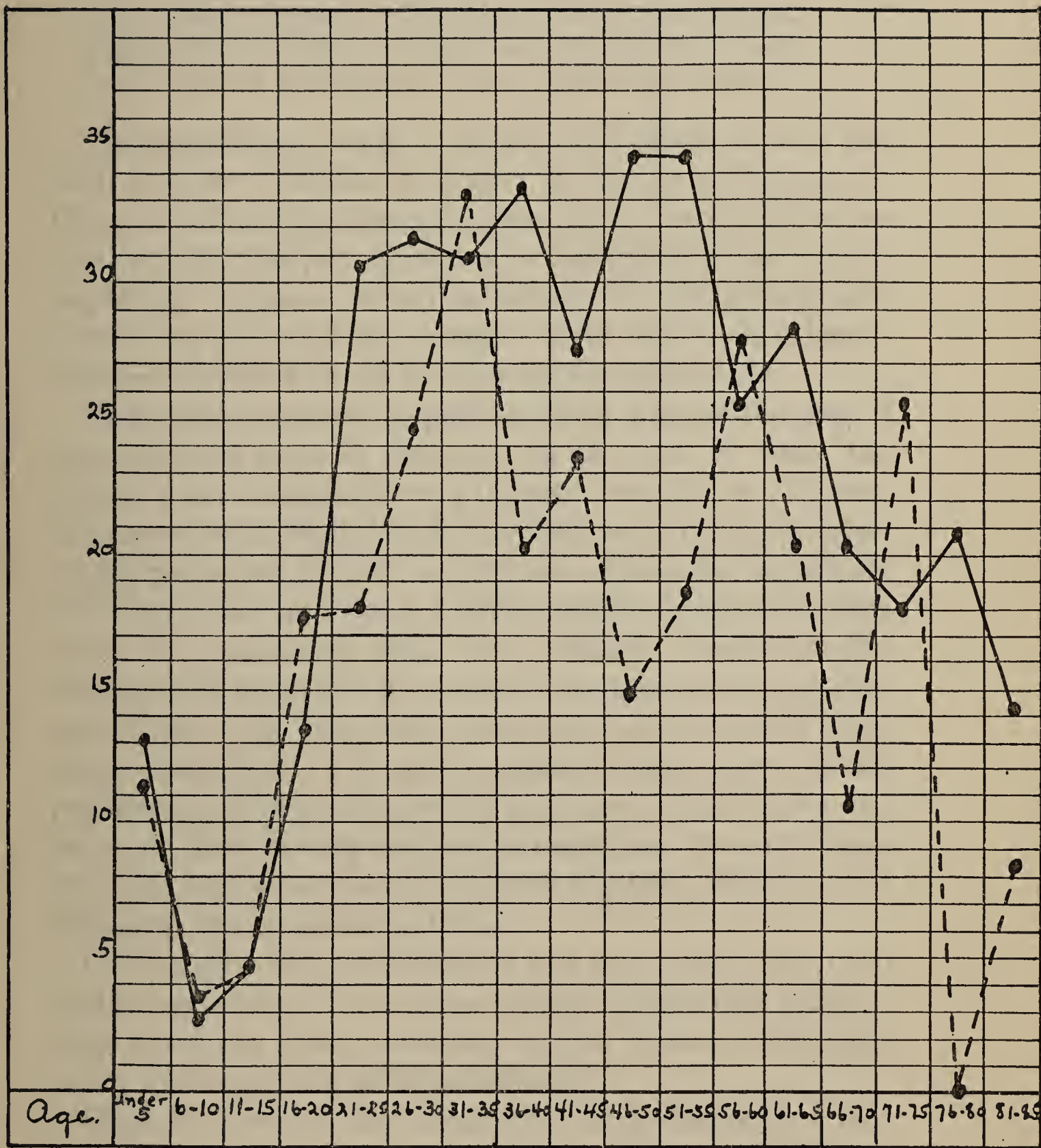


CHART 6.—NUMBER OF DEATHS FROM PHTHISIS PER 10,000 INHABITANTS AT DIFFERENT AGE PERIODS. BOSTON, 1905.

— Males.

- - - Females.



1. The first part of the sketch is a large, irregular polygon. It is drawn with light, thin lines. The polygon is located in the upper left quadrant of the grid. It has several vertices, some of which are connected by straight lines, while others are connected by curved lines. The overall shape is somewhat elongated and irregular.



### Foreign Cities.

Berlin, 1886, 34.0; 1906, 15.8; (20 years), 53.3 per cent decrease.

Vienna, 1886, 70.0; 1905, 42.8; (19 years), 38.7 per cent decrease.

London, 1886, 29.3; 1906, 19.6; (20 years), 33.1 per cent decrease.

Paris, 1886, 55.6; 1905, 48.3; (19 years), 13.1 per cent decrease.

The contribution made by all forms of tuberculosis to the total number of deaths in Boston in 1907 is well shown in Chart 2. Since 179 different causes have contributed to the total deaths, the part played by tuberculosis is seen to be appalling. As has so often been stated, Chart 2 indicates how closely the period of the greatest death rate from tuberculosis corresponds with the active working period of life.

The relation between the phthisis death rate and the general death rate is given in Chart 3. In the case of males the highest point is reached during the year period 21 to 25, when 34 per cent of all deaths are due to phthisis, and in the females, during the period 16 to 20, when 33 per cent are due to phthisis. After the period 31 to 35 in females and the period 36 to 40 in males the percentage drops very rapidly. Except for the fact that the maximum in females is reached five years earlier and begins to fall five years earlier, the two curves are quite nearly coincident. The most significant thing shown is the prominence of tuberculosis of the lungs as a factor among the causes of death in early and middle adult life. From the ages 16 to 35, both sexes being considered together, 30 per cent of all deaths were caused by phthisis.

Chart 4 gives the percentage of the total death rate from phthisis occurring in each age period. From this point of view again the great prevalence of the disease during the active working period of life is indicated.

Chart 5 represents the actual number of deaths from pulmonary tuberculosis among males and females at each age period. It will be observed that the number of deaths after the fifth year in both the males and females falls abruptly to rise again rapidly after the fifteenth, reaching its maximum in the case of females at the age period 26 to 30, and in the case of males at the age period 36 to 40. Between the ages 20 and 65, with a single exception, the males show a constant predominance over the females.

The full significance of the death rate from a given disease figured for age periods is shown only when taken in relation to the numbers living at the same periods. The last census of the city was made in 1905, but since the curve of deaths from pulmonary tuberculosis during that year is very nearly the same as in 1908, it may be accepted as fairly well representing the present conditions (Chart 6). The fallacies in Chart 5 are at once apparent. In the first place, the curves for males and females are much less nearly parallel, though with few exceptions the relative number of males is in excess of the relative number of females after the fourth quinquennial period. During early adult life, in the case of both sexes, the ratio of deaths from phthisis as compared with later years is much less, and though after the age of sixty the relative number of deaths from the disease gradually diminishes, it continues to be a very prominent factor. Personally, I am convinced that were tuberculosis recognized and recorded accurately, the high death rate from the disease in early adult life would continue until the end of life.

#### REPORT OF THE WORK OF THE YEAR.

A study of the work of the past year has given many important and suggestive facts. In reviewing this work one feels little but encouragement. The deep interest and admirable spirit of co-operation shown by both the nursing and medical staff deserves first mention. The highest possible standard of work and service has been constantly maintained by the visiting nurses, and the excellent results of their efforts in the homes of the consumptive poor daily bear witness to its efficiency. To Dr. Murphy I feel especially indebted for the most complete co-operation and assistance in the development of the many plans of activity.

During the year the medical staff has effected a definite organization, and has matured plans for regular monthly meetings, with the exception of the summer season. The discussion of the various questions arising in the routine work has been productive of a better understanding of the purposes and needs of the various departments, and in many cases has led to valuable suggestions as a result of the practical experi-



ence gained in the clinics. A plan has also been adopted for the review of current tuberculosis literature. The large number of medical journals publishing papers on any subject on tuberculosis have been assigned to the different members of the staff, who are to report to a committee a list of such articles as appear from time to time on tuberculosis which they consider worthy to be discussed in the meetings of the staff. From among these are selected those considered most important, and these are in turn apportioned among the members. At each meeting as many as possible of these are read in abstract. In this manner it is expected that the field of tuberculosis literature will be much more satisfactorily covered than is possible working individually. The mutual stimulation resulting from the meetings has been very apparent.

A definite scheme of services for the assistant physicians has been adopted. Each has chosen a service in the Out-Patient Department of four consecutive months, four assistants being on duty at the same time.

In the course of the year several medical papers have appeared regarding the hospital and its work. A full account of the work of the Boston Consumptives' Hospital was presented at the annual meeting of the National Association for the Study and Prevention of Tuberculosis, in Chicago, in June, and printed in the transactions of the association. A second paper, giving a description of the clinical activities, was prepared for the International Congress on Tuberculosis, which met in Washington in September, 1908, and will be published in the transactions. Doctors Floyd and Bowditch presented a paper at the International Congress, entitled "The Clinical Study of the Transmission and Progress of Tuberculosis in Children through Family Association." The facts on which this paper was based were gathered in the Out-Patient Department.

Many of the staff have repeatedly given public lectures on the organization of our municipal campaign and other allied topics.

It seems not out of place here to state that our organization of the staff, which, with the exception of the Carney Hospital,



in South Boston, is the only one of its kind in the state, has been very generally commended by the profession at large as being of the especial type now recognized to be the most effective. In the case of several other cities where a similar organization has been developed it has served as a model.

Our relations with outside agencies, too numerous to mention in every case specifically, which are associated with us in the anti-tuberculosis work, have continued most satisfactorily. More and more the help of the various benevolent and fraternal societies has been enlisted, chiefly through the Associated Charities. Our continued dependence on the Board of Health has been increasingly evident as the program of work has progressed. The Board has given us the most hearty support in the difficult task of supervising patients in their homes.

For the most part direct aid to patients and their families has been given through the miscellaneous societies. Contributions of clothing, and in a few instances of actual funds, have been made by individuals and such organizations as church societies and sewing circles. The largest contribution of clothing has been made by the Brookline Sewing Guild.

The Massachusetts General Hospital tuberculosis clinic has continued to refer all Boston cases to our Out-Patient Department, and we, in turn, have availed ourselves of the privilege of sending all out-of-town cases to them.

The close relations previously existing with the Boston Association for the Relief and Control of Tuberculosis have continued. The association has contributed greatly to the work along educational lines especially. To them we have frequently turned for relief in individual instances, more particularly for aid for poor patients wishing to enter the State Sanatorium. The supervision of discharged cases from the State Sanatorium has been largely assumed by the association. The important new work undertaken by them in the establishment of a day camp for children during the summer of 1908 will be discussed later in this report.

A considerable number of school children was brought by the school nurses to the Out-Patient Department for examination during the year.

The physicians in the community have shown a constantly increasing interest in our undertaking. Cases are more frequently referred to us for examination and treatment, and it seems evident that the Boston Consumptives' Hospital is becoming generally recognized as the logical and efficient center of this special work.

I append the following report of the Director of the Out-Patient Department :

BOSTON, January 31, 1909.

*To DR. EDWIN A. LOCKE, Chief of Staff:*

SIR,—I respectfully submit herewith the annual report of the Out-Patient Department of the Boston Consumptives' Hospital for the year ending January 31, 1909.

The number of patients treated in the Out-Patient Department during the past year has considerably increased over the number cared for during the corresponding months of the first half year, and the work in general has shown a steady growth.

The work of the Out-Patient Department has been almost entirely educational and clinical, the scientific side remaining undeveloped largely on account of the inadequate facilities for research and because of the pressure of clinical work. The department was long ago taxed to its fullest capacity, and with the ever-broadening scope of our endeavors the efficiency of the work has been greatly hampered. The clinical work has been carried on with certain definite ideals in view: First, it has been our aim to make the clinic a center where the early detection and accurate diagnosis of pulmonary tuberculosis could be obtained; second, to carry on effective supervision of patients under treatment, together with continued observation of ambulatory cases in their homes; third, to dispose suitably of cases requiring institutional treatment; fourth, to further preventive medicine as applied to tuberculosis by the observation and supervision of adults and children exposed to the disease.

In our endeavor to make the clinic a center for the detection of tuberculosis we have been materially aided by the cordial co-operation of the various medical and charitable institutions



of the city. From the Massachusetts General and Boston City Hospitals we receive nearly all the cases of phthisis found in these clinics who are residents of Boston. This is also true in large measure of most of the other hospitals in the city. About one-fourth of our cases are received from these sources.

The charitable organizations of the city have materially aided us and have referred large numbers of individuals and families under their care to us for examination and treatment.

It has been possible for us to reach some hundreds of suspected and a number of positive cases of tuberculosis among school children through the efforts of the medical inspectors of schools and the school nurses. The increasing use of our clinic for this purpose has received our encouragement in every way, for in conjunction with the medical forces in the public schools much effective work can be done.

The physicians of the city have utilized the clinic to a considerable degree, but it is to be hoped that they will permit us to co-operate with them to a much greater degree in the future. A study of the cases reported to the Board of Health shows that only about one-fourth to one-third of the cases of pulmonary tuberculosis are reported by the Boston Consumptives' Hospital and that fully one-third to one-half as many again could be assisted by us without taking them from the supervision of their regular physicians. This condition of affairs will be remedied, I believe, to a considerable degree as soon as the profession becomes more intimately acquainted with our work and especially with the increasing facilities at our disposal for the care of indigent cases.

The present demand for hospital care for women is not so urgent as in the case of men. We have constantly had a long waiting list of destitute advanced males for whom no hospital accommodations could be found. A delay of weeks has often occurred before an advanced case of phthisis could be removed from his home to a hospital. During the present winter months conditions have been especially unfortunate in this respect.

The care and suitable disposition of tuberculous children and those predisposed through lack of resistance and exposed



to contagion through family associations have been particularly difficult. We have indeed very few facilities for dealing with this problem. Its magnitude and importance can only be appreciated by those in intimate touch with the work. In not a few families where there has been an adult consumptive many of the children have shown marked evidence of tuberculosis, sometimes as many as four out of five. The outdoor school, maintained jointly by the Boston Association for the Relief and Control of Tuberculosis and the Boston School Committee, has assisted in meeting this great need, and merits the cordial support of every one interested in the welfare of the school child. Of some forty cases treated in this school all without exception have improved, and the great majority have been restored to robust health. By increasing such agencies much can be done to relieve this phase of the work.

The oversight of ambulatory patients in their homes, with supervision of their treatment through the Out-Patient Department, represents a large part of the daily routine of the clinic. Home treatment is necessary in a great many instances on account of financial and social conditions. Some one thousand patients are constantly kept under close observation in this way. Home conditions are improved as far as possible and cleanliness enforced. This continuous care and supervision of the consumptives at the clinic and in their homes is invaluable as a means of education.

Few of our cases are suitable for sanatorium treatment. Not a few in the first stage of the disease have been refused admission to the State Sanatorium because of noncitizenship, and it therefore happens that besides the advanced consumptives we have the duty of providing treatment for a considerable number of those in the incipient stage. To care for these, and many in the second stage, the day camps of the city have been largely utilized. Some 350 cases have been cared for in this way during the past year. The number referred to the Day Camp has steadily increased, and with extra facilities for treatment now provided there cases are taken very promptly. The day camp at the House of the Good Samaritan has drawn nearly all its cases from our clinic, and when they no longer attend because of the arrest of the disease they are

again referred to us for observation. With our nursing force supervising the home conditions of the patients, the day camp treatment has been most effective.

The tuberculosis classes have played a very small part in the work. The type of patient coming to us is as a rule too poor to be able to provide the required equipment for this method of treatment, and its usefulness as regards the great problem of tuberculosis in Boston is nearly negligible.

The treatment of advanced consumptives has been carried on in the home and through the out-patient clinic in those cases which could not be provided for in the hospitals. With the increase of hospital facilities for these cases, many of whom are most urgent, this problem, which has been our most difficult one, will be largely solved.

We have not been limited for our clinical material to the cases referred to us from hospitals, or such as have wandered into the clinic. As part of our work the investigation of cases of tuberculosis on file at the Associated Charities for four years back has been undertaken. The out-patient records of the Massachusetts General Hospital have also been searched for cases of phthisis and some thousand found there investigated. The records of the House of the Good Samaritan have been used for a similar purpose. So far as the percentage discovered goes, however, this work has not been as fruitful as we had hoped. For example, of the thousand cases on record at the Massachusetts General Hospital between the years 1904 and 1908 only about one-sixth could be located. Further work along similar lines is now being carried on in the investigation of the present condition of former State Sanatorium patients. The same line of work will in the immediate future be carried still further by the investigation of cases reported to the Board of Health during the last few years.

#### ATTENDANCE.

During the past year 2,433 new patients, all residents of the city, have been admitted to the clinic for treatment. Some thirty cases from the suburbs of Boston have been examined and referred to other clinics. Old cases receiving treatment have made 7,098 visits to the dispensary, making a total



clinical attendance for the year of 9,531. An examination of the following table shows, as might be expected, that our greatest numbers were during the winter months.

**Table of Attendance by Months.**

	New.	Old.	Total.
February, 1908.....	259	620	879
March, 1908.....	238	728	966
April, 1908.....	209	696	905
May, 1908.....	238	736	974
June, 1908.....	195	618	813
July, 1908.....	189	491	680
August, 1908.....	183	439	622
September, 1908.....	174	442	616
October, 1908.....	160	609	769
November, 1908.....	194	518	712
December, 1908.....	175	540	715
January, 1909.....	219	661	880
Totals.....	2,433	7,098	9,531

The number of old cases under treatment has been nearly three times the number of new cases. This must necessarily be so on account of the large number of suspected and negative cases continually kept under observation.

The patients reporting at the clinic for treatment during the year 1908 have been classed as follows:

**Classification of All Cases.**

CLASS.	Adults.	Children.	Totals.
Tuberculous.....	771	87	858
Suspected.....	229	174	403
Nontuberculous.....	451	659	1,110
Tuberculosis, nonpulmonary.....			18
Insufficient record.....			44
Total.....			2,433



Of the total 2,433 cases reporting for examination only about one-third were proven to be tuberculous. Nearly one-half of the whole number were negative; the remainder were kept under observation on account of suspicious signs or symptoms. In spite of an active campaign against phthisis in children the number of positive and suspected cases is relatively small. Among the nontuberculous cases the percentage of normal children is more than half the total, and the adult males make up only one-fifth. The small percentage of positive cases among the children as compared with the adults is explained by the fact that the great majority of the children have been brought to the clinic for examination not because of symptoms of tuberculosis but by reason of the fact that they have been exposed to infection, while in the case of the adults they have come because of symptoms. This may in part be explained by the fact that children of the poor, and especially of tuberculous parents, have systematically been brought or sent to the dispensary for examination who showed no definite symptoms of tuberculosis.

**Table of All Positive Cases.**

*(Showing stage of the disease, arranged according to age period and sex.)*

AGE.	INCIPIENT.		MODERATELY ADVANCED.		FAR ADVANCED.		TUBERCULOSIS, NON- PULMONARY.		TOTAL.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
1-5.....	2	1	.....	3	1	2	.....	.....	9
6-10.....	5	6	4	6	1	4	2	.....	28
11-15.....	13	20	3	11	.....	2	.....	1	50
Totals.....	20	27	7	20	2	8	2	1	87
16-20.....	14	13	12	18	7	8	.....	.....	72
21-30.....	45	35	61	40	33	24	1	.....	239
31-40.....	42	32	77	40	46	22	.....	.....	259
41-50.....	22	18	38	19	29	11	.....	.....	137
51-60.....	7	2	15	11	15	4	.....	.....	54
61-70.....	.....	1	6	.....	.....	1	.....	.....	8
71-80.....	.....	.....	.....	1	.....	.....	.....	.....	1
No age given.....	.....	.....	.....	1	.....	.....	.....	.....	1
Totals.....	130	101	209	130	130	70	1	.....	771

**Table of All Suspected Cases.**  
(Arranged according to age period and sex.)

AGE.	Male.	Female.	Total.
1-5.....	9	11	20
6-10.....	40	29	69
11-15.....	47	38	85
Totals.....	96	78	174
16-20.....	15	22	37
21-30.....	38	36	74
31-40.....	27	41	68
41-50.....	19	16	35
51-60.....	7	3	10
61-70.....	3	1	4
71-80.....	.....	1	1
Totals.....	109	120	229

The figures here presented are in accordance with those frequently published to the effect that the greatest ravages of tuberculosis occur between the ages of twenty and forty years. After the fifth year the increasing number of cases is noteworthy. No age is exempt. The proportion of cases classed as incipient has been large, nearly one-third of the total in adults and about one-half in children. The moderately advanced cases comprise about two-fifths of all positive cases. It is rather interesting that among the children the number of far advanced cases has been so small and that tuberculosis occurring in other portions of the body than the lungs has been relatively rare.

In the group of suspected cases, distribution as regards age closely follows that occurring in the list of positive cases, both in adults and children.

## Nativity. Positive Adults.

	Men.	Women.	Total.
America . . . . .	210	121	331
Armenia . . . . .	1	.....	1
Austria . . . . .	5	.....	5
Bohemia . . . . .	1	.....	1
Canada . . . . .	37	47	84
Denmark . . . . .	1	.....	1
England . . . . .	13	9	22
Finland . . . . .	2	.....	2
France . . . . .	1	.....	1
Germany . . . . .	7	4	11
Greece . . . . .	3	.....	3
Holland . . . . .	1	.....	1
Hungary . . . . .	1	.....	1
Ireland . . . . .	77	61	138
Italy . . . . .	23	14	37
Japan . . . . .	1	.....	1
Norway . . . . .	3	.....	3
Poland . . . . .	3	1	4
Porto Rico . . . . .	.....	1	1
Portugal . . . . .	.....	1	1
Russia . . . . .	72	29	101
Scotland . . . . .	2	2	4
Syria . . . . .	1	3	4
Sweden . . . . .	3	6	9
Turkey . . . . .	2	.....	2
Totals . . . . .	470	299	769

## Nativity. Positive Children.

	Male.	Female.	Total.
America . . . . .	28	46	74
Bulgaria . . . . .	1	.....	1
Canada . . . . .	.....	1	1
England . . . . .	.....	2	2
Germany . . . . .	.....	1	1
Italy . . . . .	.....	3	3
Russia . . . . .	1	1	2
Syria . . . . .	1	1	2
Not known . . . . .	.....	1	1
Totals . . . . .	31	56	87



**Nationality. Positive Adults.**

	Men.	Women.	Total.
American.....	121	73	194
Armenian.....	1	.....	1
Austrian.....	5	.....	5
Bohemian.....	1	.....	1
Canadian.....	42	47	89
Danish.....	1	.....	1
Dutch.....	1	.....	1
English.....	9	11	20
Finn.....	1	.....	1
French.....	2	1	3
German.....	11	7	18
Greek.....	4	1	5
Hungarian.....	1	.....	1
Irish.....	135	91	226
Italian.....	26	14	40
Japanese.....	1	.....	1
Norwegian.....	3	1	4
Polish.....	1	.....	1
Porto Rican.....	.....	1	1
Portuguese.....	1	2	3
Russian.....	79	32	111
Roumanian.....	1	.....	1
Scotch.....	4	6	10
Swedish.....	2	6	8
Syrian.....	1	2	3
Turkish.....	1	.....	1
Not given.....	17	4	21
Totals.....	472	299	771

**Nationality. Positive Children.**

	Male.	Female.	Total.
American.....	16	20	36
Armenian.....	1	.....	1
Austrian.....	.....	1	1
Canadian.....	4	7	11
English.....	.....	3	3
German.....	.....	2	2
Irish.....	6	13	19
Italian.....	.....	4	4
Russian.....	2	2	4
Scotch.....	.....	1	1
Syrian.....	1	1	2
Not known.....	1	2	3
Totals.....	31	56	87

An examination of the above tables reveals the important fact that 65.5 per cent, or approximately two-thirds, of all positive cases, both adults and children, were foreign born. The percentage of foreign-born men slightly exceeds that for foreign-born women. In the table headed "Nationality" all cases whose parents were born in the United States are classified as Americans, and they comprise only 26 per cent.

The countries sending us the largest number of patients are, in order of their importance, Ireland, Russia, Canada, Italy and England. The number of foreign-born children showing phthisical lesions has naturally been small. The girls largely outnumber the boys.

### Contagion.

<i>Possible Sources of Contagion.</i>	<i>Positive Adults.</i>
In the family . . . . .	202
Association at work, etc. . . . .	4
No evidence obtainable . . . . .	559
No information given . . . . .	6
Total . . . . .	<hr/> 771

<i>Possible Sources of Contagion.</i>	<i>Positive Children.</i>
In the family . . . . .	45
Association at work, etc. . . . .	2
No evidence obtainable . . . . .	39
No information given . . . . .	1
Total . . . . .	<hr/> 87

In making these tables only those were placed in the first division who named a relative infected, the statement of "consumption in the family" without specification not being accepted. The sources of contagion as recorded above are by no means certain in every case, but the probability is strong that where phthisis is or has been in the home the succeeding cases in that family have been infected from it. This is especially true with children, whose personal relations with other members of the family are so close. Among the eighty-seven positive cases of phthisis recorded in children, somewhat more than 50 per cent had been exposed to contagion through associations with another member of the family already infected. In the study of some 600 children at our clinic, it was definitely shown that 66 per cent of those exposed to contagion in the home were tuberculous. In adults, contagion in the home has been a factor in 26 per cent. Infection through association while at work is always difficult to determine. Frequently this method of transmission is overlooked as the consumptive in the workshop either spreads the disease before his danger is realized by himself or

others about him, or he conceals his symptoms and continues to work among his fellows. That this source of contagion is of considerably more importance than shown above is clear. In the light of these evidences of direct transmission of the disease in the home, too high a value cannot be placed upon home investigation and examination of all exposed members of families.

Segregation of the open consumptives is of the highest importance in the prevention of this disease, and our inability to accomplish this is one of the greatest handicaps in the present endeavor to stamp it out.

### Occupation.

#### *Positive Adults.*

##### Men.

Accountant . . . . .	1	Cook . . . . .	3
Actor . . . . .	1	Clothcutter . . . . .	1
Automobile worker . . . . .	2	Capmaker . . . . .	4
Baker . . . . .	1	Car painter . . . . .	1
Barber . . . . .	5	Car cleaner . . . . .	2
Bartender . . . . .	3	Canvasser . . . . .	1
Bookkeeper . . . . .	2	Druggist . . . . .	1
Bootblack . . . . .	1	Decorator . . . . .	1
Bookseller . . . . .	1	Deckhand . . . . .	1
Brick carrier . . . . .	1	Dishwasher . . . . .	1
Brakeman . . . . .	1	Engraver . . . . .	1
Brass finisher . . . . .	4	Electrician . . . . .	3
Brewery . . . . .	1	Elevatorman . . . . .	2
Bricklayer . . . . .	2	Engineer (stationary) . . . . .	1
Blacksmith . . . . .	6	Farmhand . . . . .	1
Butcher . . . . .	2	Fisherman . . . . .	2
Boilermaker . . . . .	2	Fish dealer . . . . .	2
Bottle washer . . . . .	1	Freighthandler . . . . .	4
Bookbinder . . . . .	1	Fruit dealer . . . . .	1
Cabinetmaker . . . . .	1	Flagman (railroad) . . . . .	1
Candymaker . . . . .	1	Foundryman . . . . .	2
Carpenter . . . . .	11	Gardener . . . . .	1
Cooper . . . . .	1	Gasworker . . . . .	1
Chauffeur . . . . .	1	General utility . . . . .	1
Cigarmaker . . . . .	5	Glazier . . . . .	1
Clerk . . . . .	17	Hatter . . . . .	1
Clerk (hotel, night) . . . . .	1	Hotel help . . . . .	1
Clerk (shipping) . . . . .	1	House servant . . . . .	1
Clerk (store) . . . . .	3	Hostler . . . . .	3
Coachman . . . . .	3	Ironmoulder . . . . .	2
Confectioner . . . . .	2	Ironchipper . . . . .	4



## Occupation.

*Positive Adults.*Men, *Concluded.*

Inventor . . . . .	1	Rubber works . . . . .	2
Insurance agent . . . . .	2	Silverplater . . . . .	1
Janitor . . . . .	11	Sea captain . . . . .	1
Jeweler . . . . .	1	Salesman . . . . .	11
Junk dealer . . . . .	3	Salesman (traveling) . . . . .	2
Laborer . . . . .	47	Shipper . . . . .	3
Leatherworker . . . . .	2	Shoemaker . . . . .	8
Letter carrier . . . . .	2	Stableman . . . . .	4
Longshoreman . . . . .	10	Stonecutter . . . . .	3
Mechanic . . . . .	2	Storekeeper (groceries) . . . . .	2
Marketman . . . . .	1	Student (high school, 3; col- lege, 2) . . . . .	5
Metal lather . . . . .	2	Sugar refinery . . . . .	1
Meatcutter . . . . .	2	Suit case maker . . . . .	1
Marble polisher . . . . .	1	Switchmaker . . . . .	1
Machinist . . . . .	21	Soap powder factory hand . . . . .	1
Milkman . . . . .	3	Shoe factory hand . . . . .	7
Metal worker (ceilingmaker) . . . . .	2	Stained glass factory hand . . . . .	1
Musician . . . . .	2	Steamfitter . . . . .	1
Newsboy . . . . .	1	Sailor . . . . .	1
News agent . . . . .	1	Tailor . . . . .	38
No occupation . . . . .	1	Teacher . . . . .	1
Organ factory hand . . . . .	1	Teamster . . . . .	47
Office boy . . . . .	5	Telegraph operator . . . . .	1
Packer . . . . .	1	Tin can factory hand . . . . .	1
Painter . . . . .	9	Towerman (railroad) . . . . .	1
Paperhanger . . . . .	1	Ticket seller . . . . .	1
Poultry dresser . . . . .	1	Upholsterer . . . . .	2
Peddler . . . . .	8	Weaver (cotton mill) . . . . .	1
Photographer . . . . .	1	Waiter . . . . .	9
Plasterer . . . . .	3	Woodworker (piano) . . . . .	2
Picture framer . . . . .	2	Wood polisher . . . . .	1
Plumber . . . . .	1	Watchmaker . . . . .	2
Porter . . . . .	5	Wheelwright . . . . .	1
Pressman . . . . .	4		
Printer . . . . .	8		
Restaurant . . . . .	2	Total . . . . .	<u>472</u>

## Occupation.

*Positive Adults.*

Women.

Bobbin winder . . . . .	1	Candy factory hand . . . . .	5
Bookbinder . . . . .	3	Correspondent . . . . .	1
Bookkeeper . . . . .	2	Clerk . . . . .	1
Brush factory hand . . . . .	1	Cashier . . . . .	2
Button factory hand . . . . .	1	Cigar factory hand . . . . .	4

## Occupation.

*Positive Adults.**Women, Concluded.*

Cook . . . . .	4	Music teacher . . . . .	1
Coffeemaker . . . . .	1	No occupation . . . . .	1
Chambermaid . . . . .	1	Nurse . . . . .	3
Compositor . . . . .	1	Paper factory hand . . . . .	2
Checker (hotel) . . . . .	1	Printworks . . . . .	1
Dishwasher . . . . .	1	Razor factory hand . . . . .	1
Dressmaker . . . . .	7	Seamstress . . . . .	1
Errand girl . . . . .	1	Student . . . . .	3
Fish factory . . . . .	1	Scrub woman . . . . .	9
Housekeeper . . . . .	4	Shoe factory hand . . . . .	2
Housemaid (general house-		Stove factory hand . . . . .	1
work) . . . . .	45	Stocking factory hand . . . . .	1
Housewife . . . . .	133	Shoeblacking factory hand . . . . .	1
Home . . . . .	4	Salesgirl . . . . .	11
Interpreter . . . . .	1	Threadworks hand . . . . .	1
Jewelry factory hand . . . . .	1	Telephone operator . . . . .	1
Kitchen maid . . . . .	3	Tailoress . . . . .	3
Lady's maid . . . . .	1	Typewriter . . . . .	1
Laundress . . . . .	7	Waitress . . . . .	5
Machine operator (stitching) . . . . .	6		
Millhand . . . . .	3	Total . . . . .	299
Milliner . . . . .	3		

Aside from the great variety of occupations here presented in patients suffering with phthisis, it is interesting to note that by far the largest group of cases comes from two types of employment, *i. e.*, those where the employed is constantly exposed to all sorts of weather, or very closely confined during occupation. This may be more apparent than real, however, as laborers, teamsters and houseworkers are more common among the class of patients who present themselves at a public clinic. A considerable number of these patients were at work when they applied for treatment, and some still continue to do so, having refused to stop for treatment. Where this has occurred the patient has usually been under close observation, and in many instances has done well. Nearly all of the eighty-seven positive children (69 or 79 per cent) were at work either at school or at some regular employment when they first visited the clinic. The exclusion of the child with open tuberculosis from the public schools has immediately followed the diagnosis of phthisis, and the value of medical

inspection in the schools has again been emphasized. Among the suspected adults the three largest classes were also housewives, houseworkers and laborers.

### Number of Members in the Family of the Tuberculous.

ADULTS.		CHILDREN.
Number in Family.	Number of Families.	Number of Families.
1.....	79	1
2.....	62	1
3.....	104	5
4.....	115	17
5.....	93	17
6.....	81	20
7.....	51	6
8.....	46	8
9.....	18	3
10.....	5	2
11.....	5	2
12.....	3	1
13.....	4	—
14.....	—	1
No information given.....	105	3
Totals.....	771	87

### Arrangements in the Sleeping Rooms.

#### *Positive Adults.*

Sleep alone in separate room . . . . .	454
Sleep in separate bed, with one other in room . . . . .	36
Sleep in separate bed, with two others in room . . . . .	13
Sleep in separate bed, with three others in room . . . . .	9
Sleep in bed with one other . . . . .	115
Sleep in bed with two others . . . . .	30
Sleep in bed with three others . . . . .	10
No information given . . . . .	104
Total . . . . .	<u>771</u>

#### *Positive Children.*

Sleep alone in separate room . . . . .	23
Sleep in separate bed, with one other in room . . . . .	8
Sleep in separate bed, with two others in room . . . . .	5
Sleep in bed with one other . . . . .	21
Sleep in bed with two others . . . . .	9
No information given . . . . .	21
Total . . . . .	<u>87</u>

It is encouraging to find that among the phthisical adults about 60 per cent at the time of the first investigation occu-



pied a separate room. About 20 per cent of the positive children occupied a separate room. In the great majority of cases undesirable living conditions have been improved through the efforts of the visiting nurses. Among other things furnished in such cases have frequently been cot beds, in order that the dangers to other members of the family from sleeping with the consumptive should be avoided.

**Type of House. 771 Positive Adults.**

NUMBER OF ROOMS.	Whole House.	Tenement.	Boarding.	Total.
1.....		6	95	101
2.....		31	8	39
3.....	4	99		103
4.....	6	161		167
5.....	13	109	1	123
6.....	11	49		60
7.....	6	8		14
8.....	9	7		16
9.....	6	2	1	9
10.....	1		3	4
11.....	6	2	10	18
Number of rooms not given.....	4	22	39	65
No information given.....				52
Totals.....	66	496	157	771

**Type of House. Positive Children.**

NUMBER OF ROOMS.	Whole House.	Tenement.	Boarding.	Total.
1.....			1	1
2.....		5	1	6
3.....		14		14
4.....	2	20		22
5.....	3	14		17
6.....	1	5		6
7.....	3	1		4
8.....	1			1
9.....				—
10.....				—
11.....	2			2
Number of rooms not given.....	3		1	4
No information given.....				10
Totals.....	15	59	3	87

Boston is a city of many tenement houses, especially in our more congested districts. The number of patients occupying whole houses is relatively small, while the tenement comprises two-thirds of the total number of dwellings occupied by the phthisical adult. The tenement of three to five

rooms accommodates the largest number of families. The conditions found, however, are often of the worst, and whole families have been found living in a single room. The dark room as frequently found in New York City is infrequent here, but the dark basement is often occupied. The extent to which the boarding house is occupied by the active consumptive is a positive menace to the community. Again and again has the advanced case reported from a boarding house, often sleeping in a room with a number of others. Inspection of such houses and fumigation when it has demanded would remedy this condition.

#### General Character of House.

<i>Positive Adults.</i>		<i>Positive Children.</i>	
Excellent . . . . .	3	Excellent . . . . .	25
Good . . . . .	274	Good . . . . .	34
Fair . . . . .	247	Fair . . . . .	13
Bad . . . . .	131	Bad . . . . .	15
No information given . .	116	No information given . .	—
Total . . . . .	<u>771</u>	Total . . . . .	<u>87</u>

#### Food.

<i>Positive Adults.</i>	
Insufficient . . . . .	224
Sufficient . . . . .	436
No information given . .	111
Total . . . . .	<u>771</u>

The problem of tuberculosis is not merely one of contagion, but one in which poverty and unhygienic living conditions are closely bound up. In a considerable number of patients applying to any large clinic the effects of insufficient food are frequently seen. This is especially true in those families where tuberculosis has gained a foothold. The poorly nourished and debilitated adult or child is an easy victim to this disease. Often all that is needed is sufficient good food and hygiene to enable the human organisms to overcome the disease. The relief work as carried on by this institution has been of great value in bringing about better conditions in these homes.

**Income.***771 Positive Adults.*

417 had incomes previous to the onset of the disease.

22 continued to work after the onset of the disease.

148 had no income previously.

543 had no income afterward.

206 gave no information.

**Income Previous to Illness.***417 Positive Cases.*

	Total Weekly.	Total Annually.
Men.....	\$3,558 00	\$177,900 00
Women.....	570 50	28,525 00
Totals.....	\$4,128 50	\$206,425 00

**Income After Onset of Phthisis.***22 of the Above 417 Cases.*

	Total Weekly.	Total Annually.
Men.....	\$128 00	\$6,400 00
Women.....	32 50	1,625 00
Totals .....	\$160 50	\$8,025 00

Net annual loss, \$198,400.

One hundred ninety-eight thousand four hundred dollars, therefore, represents the total amount actually lost in wages in 1908 by the 417 consumptives who were willing to state their financial condition.

**DISPOSITION OF CASES.**

The treatment of tuberculosis should be determined according to the general condition of the patient. The "pretuberculous" child requires a very different disposition in order that suitable treatment may be obtained from the moderately advanced case of phthisis. To meet and



care for each individual as the occasion demands has required considerable study and co-operation with many social organizations.

A large number of pretuberculous children have required care. A few could be sent to the State Hospital School for Crippled Children at Canton, a few to the Convalescent Home of the Children's Hospital at Wellesley, a few to the outdoor school, and a few to the day camp of the House of the Good Samaritan, but by far the majority had to be treated in their homes. Many of those who could not be sent away from their homes did remarkably well under the supervision of the visiting nurses from the Out-Patient Department. We have at present practically no provision for children with advanced tuberculosis, and home treatment often under the worst conditions is all that can be furnished.

The treatment of adult incipient cases of tuberculosis has been to a considerable extent unsatisfactory. Of two hundred and thirty-one first stage cases, only sixty, or about 25 per cent, were admitted to sanatoria. The explanation of this is twofold, in many instances the social conditions requiring the continuance of work on the part of the patient, while in others the law giving citizens of the first and second stage the first opportunity for treatment at the State Sanatorium has excluded them. A large number of our patients are noncitizens, and although many have lived in Boston for five to fifteen years yet they are practically debarred from sanatorium treatment. The hardship which is thus brought upon so many hopeful cases should be remedied either by modification of law or the provision of further accommodations for such cases. The day camps have been of great aid in the work of providing for them and for the class of patients termed "moderately advanced."

The State Board of Charities has given us great aid in sending a considerable number of patients back to their native lands.

With the increasing number of applicants for treatment, increased provisions must soon be made if we are to retain the confidence of the public.

## DISPOSITION OF CASES.

Convalescent Home of the Children's Hospital, Wellesley . . . . .	23
State Hospital School, Canton . . . . .	8
Outdoor school . . . . .	23
State Sanatorium, Rutland . . . . .	58
Sharon Sanatorium . . . . .	2
Massachusetts General Hospital . . . . .	14
Boston City Hospital . . . . .	11
Children's Hospital . . . . .	8
Day camp at Mattapan . . . . .	260
Day camp, House of the Good Samaritan . . . . .	68
Carney Hospital . . . . .	52
House of the Good Samaritan . . . . .	9
Cullis Home for Consumptives . . . . .	9
Free Home for Consumptives . . . . .	9
Holy Ghost Hospital . . . . .	280
Channing Home . . . . .	4
Long Island Hospital . . . . .	27
St. Monica's Home . . . . .	20
State Hospital, Tewksbury . . . . .	39
Other countries . . . . .	38
Total . . . . .	<u>962</u>

NOTE.—The beds at the Holy Ghost and Carney Hospitals and St. Monica's Home are controlled by the Boston Consumptives' Hospital, in each case the institution being paid at the rate of \$8 per patient per week.

The appended report of the laryngological clinic is of considerable interest. The examination of the nose and throat, which is a routine measure at the Out-Patient Department, is here shown to be important. The large number of laryngeal cases treated, 5 per cent of the total, clearly demonstrates the prevalence of this affection in a pulmonary clinic. In a number of instances doubtful conditions in the chest have been made clear by a throat examination, the presence of tuberculosis or syphilis being confirmed. The treatment of numerous nasal conditions has been invaluable in relieving many symptoms which could not be explained by the pulmonary condition.

The work with children has been of great importance. The presence of enlarged adenoids and tonsils has often helped to explain the presence of marked limitation of lung expansion and flat chests, when tuberculosis could not be detected. In these children predisposition to phthisis is

greatly increased, and in many instances operative procedures have been urgently advised to remedy defective breathing. I would strongly recommend the providing of an operating room, where operations on the nose and throat can be done.

Below is submitted the report of the laryngologist.

BOSTON, January 31, 1909.

DR. CLEAVELAND FLOYD, *Director*:

SIR,—I herewith submit the report of the Nose, Throat and Ear Department of the Boston Consumptives' Hospital for the year ending January 31, 1909.

During the year 2,433 cases were given systematic examination of the nose, throat and ear, and of these 2,126 were found to have some abnormality. It will thus be seen that of the total number only 307 were entirely free from pathological conditions. In the following tables are summarized the results of the examinations made. The variety of conditions recorded is due to the fact that all patients entering the clinic, whether tuberculous or nontuberculous, were given a systematic examination. The large number of conditions recorded in these tables, which far exceeds the number of patients examined, is obviously due to the fact that in many instances more than one abnormal condition was found to be present.

#### NOSE.

Eczema . . . . .	26
Polypi . . . . .	13
Rhinitis, acute . . . . .	46
Rhinitis, atrophic . . . . .	18
Rhinitis, chronic . . . . .	90
Septum, deviation of . . . . .	262
Septum, erosion . . . . .	9
Septum, perforation of . . . . .	6
Spur . . . . .	180

#### NASO-OROPHARYNX.

Gingivitis . . . . .	1
Glossitis . . . . .	4
Hard palate (T. B.), perforation of . . . . .	1
Lingual tonsil, enlarged . . . . .	3
Nasopharyngitis, chronic . . . . .	705
Pharyngitis, atrophic . . . . .	23
Stomatitis . . . . .	1



Tonsils and adenoids, enlarged . . . . .	763
Uvula, bifid . . . . .	1
Uvula, elongated . . . . .	12

## CONDITION OF THE TEETH.

Good . . . . .	228
Fair . . . . .	932
Poor . . . . .	833

## LARYNX.

Glottis, œdema of . . . . .	2
Laryngitis, acute and chronic catarrhal . . . . .	53
Laryngitis, tuberculous . . . . .	142
Paralysis, postdiphtheritic . . . . .	1

It is important in this table to note the large percentage of cases showing tuberculous involvement of the larynx. Of the total number of positive cases, 142, or 5 per cent, had tuberculous laryngitis. Of the 558 tuberculous cases, 26 per cent showed tuberculous involvement of this organ.

## EAR.

Cerumen . . . . .	74
Deaf-mute . . . . .	1
Eczema auris . . . . .	5
Mastoiditis, chronic . . . . .	1
Otitis media, acute and chronic . . . . .	82

## MISCELLANEOUS.

Adenitis, cervical . . . . .	29
Adenitis, submaxillary . . . . .	3
Face, contusions of . . . . .	1
Face, herpes of . . . . .	1
Goiter . . . . .	6
Sarcoma, inferior maxilla . . . . .	2
Sinusitis, antral . . . . .	4
Sinusitis, frontal . . . . .	2

The entire absence of facilities for operative work has rendered the treatment of the conditions given in the above tables entirely unsatisfactory. An attempt has been made to refer such cases as have needed operative treatment to the various special clinics in the city, but this has, on the whole, proved very unsatisfactory. We have been greatly helped

in this direction by the kind assistance of the Sisters at the Carney Hospital, who have gratuitously offered the use of their operating room. During the year there have been fifty-three operations for enlarged tonsils and adenoids, and twelve for nasal septa, diseased turbinates, polypi, etc., performed at other clinics in the city.

Respectfully submitted,

JOHN T. SULLIVAN,  
*Laryngologist.*

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#### RECOMMENDATIONS.

Our most urgent needs are the same as those of a year ago, namely:

*First*, increased facilities to carry on our work. The present building is overcrowded, and with clinics ranging in attendance from 50 to 105 persons per day they cannot be properly taken care of. Delay in the routine is, therefore, unavoidable, and accurate work cannot be done on account of noise and lack of room. It is impossible to take up any progressive line of work at present, because of these limitations.

*Second*, a large number of patients are being kept continually under observation who have been discharged from sanatoria or day camps as arrested cases. Many of them go back to very poor home surroundings and with difficulty maintain the gain they have made. A large number also relapse. This is especially true in men. To improve this condition of affairs is a pressing need and a night camp would meet the demand. By this means the arrested cases, after treatment at the State Sanatorium or the Day Camp, could take up work during the day and remain in the open air at night. Some, at least, would thus be spared a relapse.

*Third*, in the work of home investigation, disposal and removal of cases the support and co-operation of the Board of Health has been constantly needed. In order that this mutual assistance may be still further increased, the appointment of one or more inspectors to have especial charge of

this work would be of great value. In this way duplication of effort would be eliminated and removals and enforcement of health ordinances brought about more promptly.

Respectfully submitted,

CLEAVELAND FLOYD,  
*Director.*

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The clinical activities of the year have so largely centered in this department that it is natural that the results shown should be minutely studied with relation to their value and indications for future growth. In this department we have had constant opportunity to view the entire field and to measure the needs and the efficiency of the various efforts made.

The rapid growth of the work has far exceeded all expectations and early in the year reached the stage where it could no longer be done in the present quarters with complete efficiency. For the entire year we have been seriously handicapped by this condition of affairs. As stated by Dr. Floyd in his report, there has not been an adequate number of examining rooms to accommodate the increasing number of physicians necessary to the work of the clinic, and constantly examinations have to be made under the most unsatisfactory conditions. For these reasons long delays have been inevitable, and the standard of medical and clinical work greatly lowered. Notwithstanding these serious limitations, however, most excellent results have been obtained and the services of all connected with the work of the department should be given the highest praise. I would especially commend the faithful and efficient work of its director, Dr. Floyd.

An excellent general idea of the magnitude of the work is given in the table on page 15. It will be seen that during the year a total of 9,531 patients visited the clinic, 2,433 of whom were new cases. With the opening of a large municipal tuberculosis dispensary and the simultaneous development of such a considerable number of activities designed to care for the tuberculous, it was to be expected that the attendance



would during the first few months be greater than later, since so many consumptives for whom other clinics and hospitals could not make provisions would immediately be referred to this special clinic. Comparatively few, I think it may be safely stated, came voluntarily for examination.

Since many thus received were in the advanced stage of the disease, for as large a percentage as possible institutional care was provided. It is not surprising, therefore, that the monthly attendance should have fallen off slightly during the latter part of the year. It is significant only of the fact that the sources above mentioned have been partially, at least, exhausted and in no sense that the needs of further work are becoming less evident. The total number examined represents but the beginning of the task of searching out the tuberculous. In the fact that 1,110 of 2,433 persons examined were classed as "nontuberculous" is the best of evidence that the public is becoming aroused as to the nature of the disease and the need of systematic examination of all those who have been exposed to infection.

The table on page 17 is important as showing essentially the same for the positive cases examined in the Out-Patient Department as do Charts 3, 4 and 5 for those dying of tuberculosis of the lungs in Boston, *i. e.*, that the greatest number occurs between the ages of twenty and forty. A still further significant fact is brought out in the predominance of males over females. Their bearing on the economic considerations of tuberculosis has been earlier discussed. It is interesting that almost the same holds true for the suspected cases.

The home conditions in general, as given on pages 23 to 25 appear to indicate conclusively that in Boston in this respect we fortunately do not have to face so difficult a problem as is the case in many large cities. In individual instances we are continually finding the most wretched and unhygienic homes, but never on a large scale as in New York, London and other cities. For example, Kayserling in 1907 published the results of his investigation of the home conditions of 6,521 residents of Berlin dying of tuberculosis, in which he states that 42 per cent lived in a single room and 41 per cent in dwellings of only two rooms. In only 16 per cent were the homes of

three rooms or more. Regarding 2,150 who lived in one room, the following statistics are given:

688 lived with 3 other persons.

580	"	"	4	"	"
452	"	"	5	"	"
229	"	"	6	"	"
136	"	"	7	"	"
45	"	"	8	"	"
25	"	"	9	"	"
10	"	"	10	"	"
5	"	"	11 or more	"	"

In the study of 1,000 cases of tuberculosis in Edinburgh Philip found that

167, or 16.7 per cent,	lived in one room.				
470, or 47.0	"	"	"	"	two rooms.
238, or 23.8	"	"	"	"	three rooms.
87, or 8.7	"	"	"	"	four rooms.

Among the same 1,000 cases he further found that 659 slept in the same bed with one or more persons.

These comparisons are not cited for the purpose of minimizing the need in Boston of constant efforts to improve the living conditions of the poor but rather to show the hopefulness of such work. In the home the disease is most firmly entrenched, and it is there that the great struggle must take place if it is to be eradicated.

To Dr. Sullivan and his assistant, Dr. Shay, great credit is due for the high standard of work which they have maintained under the discouraging conditions resulting from the very inadequate facilities for treatment offered them. The work of the laryngological department during the year has brought to light an astonishing prevalence of infections of the ear, nose and throat. As will be seen from the appended report of Dr. Sullivan, only 307 of all cases examined, including the nontuberculous, were found to be free from diseases of some sort of these organs. The proper treatment of these various abnormal conditions in the tuberculous is most vital and necessary to the best results of general treatment. In the children especially permanent improvement is frequently impossible unless the diseased tonsils and adenoids are



removed. The majority of the 763 of this class, mainly among children, should have received operative treatment. Likewise the 262 cases of deviation of the septum and the 180 cases of nasal spur were largely operative. We cannot urge too strongly the necessity for providing in the immediate future facilities in the Out-Patient Department for minor operations. It is manifestly unfair to the physicians in charge that such a large percentage of treatment of the conditions above enumerated, and which are often the most important, should be done in other special clinics. By referring cases to other hospitals which possess better equipment it cannot be doubted that we frequently lose control of the patient, and, furthermore, but a small proportion of patients ever carry out instructions when directed to go to another hospital for an operation. Proof of this is shown by the fact that but 53 of the 763 cases of enlarged tonsil and adenoids were operated on during the year.

The frequency of tuberculous involvement of the larynx (16 per cent of all tuberculous cases) is most striking. Among 858 positive cases examined at the Phipps Institute during the four years ending January 31, 1907, 274, or 31.8 per cent, were found to have tuberculosis of the larynx.

Of late much attention has been directed to the importance to the general health of care of the teeth, and to the fact that decayed teeth may be the portals of entry of the bacilli into the system. It has been well said that "dental cripples may become easy victims of tuberculosis." It is interesting to note that in but 11 per cent were the teeth found to be in good condition, while in 43 per cent the teeth were classed as "poor." This need of dental treatment in such a large percentage of cases has naturally suggested the establishment of a dental department, but after conference with the Harvard Dental School it has seemed inexpedient because of the expense necessary to maintain such a clinic. All cases needing special care of diseased teeth have, therefore, been referred to some special dental clinic.

Below is given the report of the Director of the Day Camp.



BOSTON, January 31, 1909.

To DR. EDWIN A. LOCKE, *Chief of Staff*:

SIR,—The following is the report of the Day Camp from July 7, 1908, to January 31, 1909.

The Day Camp was opened July 7, 1908, with 27 patients. Two hundred seventy-nine new cases, 177 men and 102 women, were admitted, and 9 old cases readmitted, up to February 1, 1909. Of these, 110 remain under treatment at the present time.

## STAGES OF THE DISEASE AT TIME OF ENTRANCE.

Stage I. . . . .	19
Stage II. . . . .	87
Stage III. . . . .	172
Nontuberculous . . . . .	1
Total . . . . .	<u>279</u>

Of the total 279 patients, 265 were referred from the Out-Patient Department and 14 from private physicians. Forty-one had previously been under treatment in some sanatorium.

## TABLE OF AGES.

13 years . . . . .	1
15-20 " . . . . .	36
20-25 " . . . . .	41
25-30 " . . . . .	39
30-35 " . . . . .	48
35-40 " . . . . .	52
40-45 " . . . . .	28
45-50 " . . . . .	23
50-55 " . . . . .	9
55-60 " . . . . .	2
Total . . . . .	<u>279</u>

From July 7, 1908, to February 1, 1909, 12,903 days of treatment were given as follows:

July . . . . .	1,358
August . . . . .	1,852
September . . . . .	1,801
October . . . . .	1,795
November . . . . .	1,866
December . . . . .	2,021
January (1909) . . . . .	2,210
Total . . . . .	<u>12,903</u>

The average daily attendance per month was:

July . . . . .	54
August . . . . .	60
September . . . . .	60
October . . . . .	58
November . . . . .	62
December . . . . .	65
January (1909) . . . . .	71

The average daily attendance for the season was 61, the largest attendance on any one day 95.

LENGTH OF STAY BY WEEKS.

Less than one week . . . . .	25	16 weeks . . . . .	7
1 week . . . . .	24	17 " . . . . .	3
2 weeks . . . . .	14	18 " . . . . .	3
3 " . . . . .	21	19 " . . . . .	3
4 " . . . . .	23	20 " . . . . .	1
5 " . . . . .	13	21 " . . . . .	5
6 " . . . . .	16	22 " . . . . .	1
7 " . . . . .	13	23 " . . . . .	2
8 " . . . . .	7	24 " . . . . .	2
9 " . . . . .	13	25 " . . . . .	—
10 " . . . . .	10	26 " . . . . .	2
11 " . . . . .	7	27 " . . . . .	2
12 " . . . . .	6	28 " . . . . .	5
13 " . . . . .	12	29 " . . . . .	7
14 " . . . . .	11	30 " . . . . .	15
15 " . . . . .	6		

All cases, other than those mentioned in the report as sent to other places, on discharge are referred back to the Out-Patient Department for observation and care. The arrested cases have returned to their old work or in some instances to more favorable occupations.

The majority of cases at the camp, as will be seen from the above table, are in the advanced stages of the disease.

As one of the chief aims of the camp is educational, much emphasis is laid on this side of the work. Each patient is urged and requested to confide in the physicians and nurses, and there is nothing too trivial to receive attention. Each patient is taught how to care for himself and how to prevent spreading the infection to others.

The daily routine is as follows: The patients are expected to be at the camp daily, unless excused, not later than 9.30.

The pulse and temperature are taken on arrival. At 9.30 breakfast is served. After breakfast the time is spent until dinner in weighing, examinations, reading, games or rest. At 12.30 dinner is served, after which all patients are required to remain absolutely at rest in a reclining chair for one hour. Between 4 and 4.30 the afternoon temperatures are taken, and at 4.30 supper is served. Shortly after this the patients return to their homes. The house diet, which is a liberal mixed diet, is frequently changed to suit the needs of the patient; thus, if found advisable, by reason of the patient's condition, a diet of milk and eggs every two hours is substituted, or a "soft diet," or an "extra diet" (milk and eggs between breakfast and dinner and again between dinner and supper), or a strictly "milk diet" is prescribed in certain cases. These changes are made only by the physician's orders. Each patient is carefully watched and every effort made to improve his general condition.

On entrance every patient is furnished with a reclining chair and three blankets, each of which bears the patient's number and remains his property so long as he continues a member of the camp. For the disposal of the sputum each patient is supplied with small crepe paper napkins and a paper bag, into which the soiled napkins are placed. These are collected in the late afternoon and burned in an incinerator, and a fresh supply issued for use at home during the night.

The patients are weighed regularly once a week, and as a routine examined once each month, oftener if the occasion requires. The sputum is examined at varying intervals, depending on the type of case and the progress made. The laryngologists of the staff, Doctors Sullivan and Shay, have visited the camp regularly on Mondays and Fridays for examination and treatment of the throats of all who require such treatment. Tuberculin has been employed both diagnostically and therapeutically in selected cases, but for so short a time that it has seemed unwise to attempt to make any report on the results obtained. Patients who are able are expected and urged to do light work about the institution. The caretakers, three in number, are patients.



The results of the treatment thus far may be summarized as follows:

Improved . . . . .	89
Stationary (this includes those in which there was only one examination, <i>i. e.</i> , those who remained less than a month and those in whom the lung condition was unchanged at subsequent examination) . . . . .	139
Progressive . . . . .	50
Nontuberculous . . . . .	1
Total . . . . .	<u>279</u>

Of the above 89 improved cases 7 were discharged apparently arrested, 5 were sufficiently improved to be admitted to the State Sanatorium at Rutland, 19 were discharged able to work. These were greatly improved, although not strictly arrested.

One hundred forty-eight gained in weight, 82 remained stationary, and 49 lost weight. Some of the striking gains in weight are as follows:

34 pounds in 11 weeks.	12 $\frac{1}{4}$ pounds in 6 weeks.
18 $\frac{1}{2}$ " " 18 "	11 $\frac{1}{2}$ " " 6 "
17 $\frac{3}{4}$ " " 14 "	10 $\frac{1}{2}$ " " 5 "
20 $\frac{1}{2}$ " " 12 "	12 " " 4 "
12 " " 9 "	9 " " 4 "
15 $\frac{1}{4}$ " " 7 "	

These results may at first seem somewhat disappointing, but considering the class of cases treated they seem to me most satisfactory.

I believe it would be an advantage to the work at the camp if an extra nurse were assigned to this department, who should spend a portion of her time at the camp and the rest in visiting the patients, especially the absentees, in their homes, instead of having this done, as at present, by the nurses at the Out-Patient Department.

In conclusion I desire to express to Dr. R. H. Houghton my deep appreciation of his valuable assistance, and to the nurses for their kindly interest in the patients and their untiring devotion to the work, which has contributed so much to the success of the camp.

Respectfully submitted,  
DAVID TOWNSEND.

The building of a permanent hospital building for a day camp and its maintenance on a large scale was in a measure an experiment, it being the first of its kind in the world. It is, therefore, important that the first season's work should be studied critically. Theoretically, it appeared to offer the most ideal solution of the problem of caring for a very large class of moderately advanced consumptives unsuitable for admission to the State Sanatorium at Rutland, on the one hand not sufficiently hopeless to be treated in a hospital for the dying and, on the other, yet incapable of work and unsafe to be permitted to remain in their homes. In many instances, also, there was hope of considerable permanent improvement in the general health and in the tuberculous process. By this method it was believed to be possible to care for a very large number at a minimum of expense and a maximum of efficiency. By providing the best possible treatment, essentially that in vogue in the sanatoria for early cases, we hoped to make the treatment so attractive that the above class of consumptives would willingly enter and remain for an indefinite period under surveillance. The great advantage in taking consumptives from their homes and segregating them in institutions of this kind is obvious. Chief in importance is the exceptional opportunity it offers for educational work of a most direct nature, through the daily training and supervision of the patients. Every effort has been made through constant supervision to train the members in the care of their sputum and the best methods of life. Aside from this not a few of the moderately advanced consumptives can be sufficiently improved in health to be admitted to a sanatorium, where they can carry their treatment further. Still others, although not suitable candidates for a sanatorium, can be restored to at least partial working capacity.

Many difficulties were foreseen and so far as possible provided for in the scheme laid out. It was anticipated that a certain proportion would belong to the class of irresponsible, indifferent, careless consumptives who, unless closely disciplined, would only demoralize the spirit of the camp community. To forestall this a rigid system of discipline was laid down and every patient made to conform to it. The



intractable and persistently careless ones have been discharged to the proper institutions in the city and state. Provisions were made that all delinquents should be looked up in their homes by visiting nurses from the Out-Patient Department, and also that all members of the camp should be visited and supervised in their homes by the same nurse.

With the exception of a few cases referred directly by individual physicians, all those treated in the camp have first been examined at the Out-Patient Department, where a permanent record has been kept of their condition and whereabouts. When discharged from the camp all patients have been again referred to the Out-Patient Department. The experience of the first seven months in this department leaves no doubt of the great value of the work accomplished, and serves to establish this particular activity as a necessary and important part of our institution.

The fullest credit is due Doctors Townsend and Houghton for the excellent showing of this department. Both physicians have, without remuneration of any sort, given the most faithful service. Dr. Townsend has devoted practically his entire time to the work, and Dr. Houghton has been in attendance at the camp a considerable portion of each day.

As will be seen by reference to Dr. Townsend's report, 172 of the total 279 admitted were in the third stage of the disease. A considerable number of these were, because of the very advanced stage of the disease, unsuitable for treatment in the camp. Some have had high fever and very severe symptoms, which made the long daily journey to the camp to and from their homes a physical strain sufficient to more than neutralize the good influence of the camp treatment. These patients were admitted to the camp only because of the urgency in each case for some form of institutional supervision which could not be furnished elsewhere. As rapidly as possible they have been transferred to some hospital and, in a few of the most severe cases, have been discharged to their homes for treatment under the direction of the visiting nurse.

The daily attendance has increased almost constantly, month by month, the average for July, 1908, being 54,



for January, 1909, 71. It is most gratifying to record that during the most trying days of the winter the attendance has fallen off but moderately, and even in the most inclement weather there has been no difficulty in keeping the patients perfectly comfortable in the open air. There is a very remarkable spirit of courage and cheerfulness among the patients. Surely double the number now enrolled (110) can be cared for without serious crowding or sacrifice in efficiency.

The large percentage of cases in early and middle life is in keeping with the prevalence of the disease in general in that period of life.

A study of the table giving the length of treatment in the camp furnishes some practical suggestions for our future policy. Of the total 279 patients admitted, 195 remained one month or more, 84 less than one month; 130 for two months or more, 149 less than two months; but 95 remained three months or more, and but 58 four months or more. The figures for the camp of last year, which was under private auspices (Boston Association for the Relief and Control of Tuberculosis), are on the whole slightly better. These figures, even when due allowance is made for a considerable number of discharges, indicate one of the greatest difficulties to be overcome in handling the advanced consumptives, namely, their disposition to make frequent changes. A careful examination into the causes of the above has been undertaken and efforts made to increase the length of time of treatment in the camp. The great value of the plan outlined last year, making the Out-Patient Department the central bureau, where all patients shall be permanently registered, is shown by these facts. The consumptive must be kept under surveillance as long as he lives.

Little need be said of the details of treatment, since it corresponds so closely with the well-known system in vogue in the sanatorium.

The results obtained by treatment in the Day Camp are both interesting and significant. Of all patients admitted, including the 84 who remained less than one month, 148, or more than one-half, gained weight. Some of the most striking cases are given in the report by Dr. Townsend.

When one takes into account the limited time which many of the patients remain under the Day Camp régime and the advanced stage of the disease at entrance, the results of treatment are as good as can reasonably be expected. Eighty-nine have shown definite improvement. Far better results should be obtained when, with the equipment of more beds for advanced consumptives, the hopeless cases can be excluded from the camp.

#### GENERAL DISCUSSION AND RECOMMENDATIONS.

As stated in the beginning of this report the chief value of the record of the activities of the year lies in the indications which it gives for future development of the plan of action already begun. It is my purpose to present certain general considerations and changes which seem to me to naturally grow out of the experience thus far gained.

Hand in hand with the constant encouragement and stimulation from the work done has come constant proof of the almost overwhelming nature of our undertaking. We have seen more clearly each day the complexity of the work, the many serious obstacles to be overcome and the great price which must be paid for ultimate success in greatly lessening the ravages of tuberculosis in Boston. Our efforts so far have scarcely served as more than a preliminary survey of the field, and, personally, I doubt if a continuation of our work on the present scale would in ten years result in any considerable increase in the present rate of diminution in the tuberculosis death rate.

During the twelve months ending January 31, 1909, 858 patients visiting the Out-Patient Department were proven to be tuberculous, which number, if the estimate of 15,000 consumptives for the entire City of Boston be not overdrawn, indicates the great work still before us. The total number of nontuberculous and suspected new cases was 1,575, or twice as many, and this, I believe, may be accepted as a fair ratio which will in the future exist between the two classes, *i. e.*, the positive (858), and the nontuberculous and suspected (1,513). It is as important to care for and supervise the suspected and those of the negative group who are exposed to



infection as the tuberculous themselves, for it is only through methods of prevention that the spread of tuberculosis is ever to be greatly limited. It must also be kept in mind that the tuberculous group is one which is self-perpetuating. The seed of infection which is sown broadcast is constantly taking root and each day brings new victims. While we are treating a hundred already infected individuals, perhaps even a greater number are developing to fill their places.

No single year since the beginning of the modern anti-tuberculosis movement has been more productive of reliable experience and facts regarding the best methods of attacking the problem. The recent International Congress on Tuberculosis in Washington brought together many of the ablest scientists and practical workers in this line from every section of the world. Much new light was thrown on many of the most vexing and difficult problems and there was a most encouraging unanimity of opinion regarding the fundamental principles on which the movement should be based.

1. *Tuberculosis and the Community*.—The past semi-decade has produced so many careful and trustworthy investigations relative to the financial losses caused by this disease that it does not seem necessary in this report to present at length evidence in emphasis of this consideration. In the second annual report of this department considerable space was devoted to a review of these investigations. Since the publication of that report, however, some new facts have been published which are eminently worthy of repetition. Newsholme, in his authoritative work, "The Prevention of Tuberculosis," published in 1908, discusses at considerable length the economic losses from tuberculosis, particularly as regards the age at which deaths occur, as shown by the results of investigations made by Hayward. The latter author has shown that for England and Wales the mean expectation of life would be increased by 2.3 per cent were phthisis to be abolished. Newsholme has further shown that when applied to the total number of males in England and Wales aged 15 to 25 (3,080,166, census 1901), for which the mean increase in the expectation of life, according to Hayward's tables, is 2.5, would live in the aggregate



7,700,315 years longer, could the death rate from phthisis suddenly be reduced to zero. Accepting 20 shillings as the weekly wage, he figures the total saving to be approximately \$2,000,000,000, or more than \$50,000,000 annually. These figures have not been applied to conditions in Boston, but considering the fact that the death rate from phthisis was 21.76, as contrasted with 14.6 per ten thousand in England and Wales for the same year, and the fact of higher wages in this community, the immense significance is apparent.

At the International Congress on Tuberculosis held in Washington in 1908, Prof. Irving Fisher presented the results of similar studies made with reference to the losses in the United States from the same disease. He says "the cost of tuberculosis is fourfold — cost in lives, cost in disability, cost in unhappiness, and cost in money." He finds that \$8,000 is "the very least at which we can reckon the average cost in actual money of a death from tuberculosis in the United States." The total loss in the United States is, according to his investigation, \$1,100,000,000 per annum, at least two-fifths of which falls on others than the consumptive. On this basis the loss to Boston for the year 1908 was more than \$8,000,000.

Attention is especially directed to the investigation into the losses in wages, made in the Out-Patient Department, the results of which are recorded earlier in this report. Of 417 consumptives who previous to the onset of the disease were regularly at work, all but 22 were at the time of the investigation entirely without income as a direct consequence of the resulting disability. The total annual income of the 417 men and women before they became tuberculous was \$206,425, while subsequently the total annual income for the group was \$8,025. In this small group of 417 consumptives, then, it is evident that the disease was directly responsible for the loss of \$198,400 in wages in the year 1908.

In the light of these reliable statistics the expenditures already made by the city and those asked for by the trustees for future development receive ample justification. But these and other considerations bring more than justification. Tuberculosis is a preventable disease just as truly as

smallpox, typhoid fever, plague, yellow fever and many others, and is almost strictly dependent on social conditions, and for these reasons the community is brought face to face with an imperative responsibility to protect its members from it.

Doctor Biggs, Chief medical officer of the New York Health Department, in 1904, said, "The time is not far distant when those states and municipalities which have not adopted a comprehensive plan for dealing with tuberculosis will be regarded as almost criminally negligent in their administration of sanitary affairs and inexcusably blind to their own best economic interests." In 1908 the special commission appointed by the General Assembly to investigate tuberculosis in Connecticut in its report said, "The widespread distribution of the disease has placed its control beyond the power of individual effort and imposes the duty upon the state, a duty that, properly performed, must be of the broadest possible economic value to the whole community."

2. *The Necessity for the Adoption of More Drastic Measures.*—Comparatively few consumptives, especially among the poor, can be sufficiently educated so as to be considered without danger to those most closely associated with them. Environment and unfavorable social conditions are in too many greater obstacles than can be overcome by voluntary methods. The following case, which recently occurred in the Out-Patient Department, is typical of conditions so frequently met:

Mrs. E. S., aged 36; advanced open tuberculosis.

Home investigation: Mother, father and eight children, ranging in ages from five months to fifteen years, living in four-room tenement. Conditions of home exceedingly bad, and mother very careless and indifferent. Mother and six of the children all sleep in one small room. Father earns \$14 a week; mother also out by the day at work. Family cared for during the day by Agnes, aged thirteen. Father refuses assistance of any kind and will not submit to any examination. Eight children examined at the Out-Patient Department and, although poorly nourished and sickly, none were found actually tuberculous. Mother died some months later. Seven months after first examination, Daniel, aged eight, re-examined and found to have phthisis. Other children not yet re-examined.



Under such circumstances, judging from reported experiences of this kind, there can be no question of the almost inevitable infection of several if not the majority of the members of the household. The maintenance of effective protective measures is impossible, except under compulsory supervision. In this family nothing short of compulsory removal of the consumptive mother to a hospital and of the children to a more suitable environment and the most thorough cleaning up of the premises could be considered adequate. We have tested the value of such procedures so often that we have no doubt of the results which would follow. At least the majority of the children could be saved from infection, and even in the case of any already tuberculous there is every reason to anticipate a complete cure under proper treatment. The cost would be relatively small. If, on the other hand, the changes above suggested were not forced on the family, it is inevitable that several members should become tuberculous and perhaps remain for many years a financial burden to the city.

It has come to be an accepted principle of the tuberculosis work among the poor that every member of the family where tuberculosis is discovered should be systematically examined. As a rule our nurses are successful in persuading the remainder of the family of a consumptive to visit the dispensary, but not infrequently every effort fails. Here the nurses should have the backing of authority in order to force the individual to comply or be able to call on a representative of the health board to make the examination.

At the recent International Congress repeated emphasis was laid on the importance of isolation in the case of all individuals with open tuberculosis who cannot be rendered harmless to the healthy. Professor Koch expressed his convictions that on isolation for a considerable percentage of advanced consumptives must the hope of success in the attack on the disease largely depend. The great diminution in the death rate from tuberculosis in the past has been brought about for the most part while the infected have remained in their homes without proper prevention being



taken to destroy the sputum; hence, if isolation be widely practiced much more satisfactory results should follow.

The danger of infection depends not on the amount of expectoration and the number of bacilli which it contains but on the methods of disposal. The most advanced may not be the slightest menace to others if he exercises proper precautions in rendering his sputum innocuous. In no other contagious disease is the complete protection of the well from infection more certain. It is for the careless, unteachable consumptive, and unfortunately many in the last stages as a consequence of weakness and poverty become so, that isolation is imperative.

Another consideration must also be reckoned with, however. Bulstrode has called attention to the fact that the continued presence in the family for a long period of a member afflicted with a chronic disease which renders him absolutely dependent must reduce the resources of the family and therefore indirectly the vitality of other members, rendering them more susceptible to the implantation of an infection or the lighting up of an old focus.

Disinfection as now practiced by the Board of Health, we believe, is not uniformly efficient. To disinfect only the room in which the patient has died is seldom enough, for in the homes typified by the case cited above the entire abode is infected. Extensive renovation is often necessary, and rarely, as in the case of homes where successive occupants have been infected, the building should be condemned. All these measures may seem harsh and sometimes may work hardships, but in no other way can actual control of the disease come about.

*I would urge, first, the necessity of a closer co-operation between the Board of Health and the Boston Consumptives' Hospital.*

*Second, that systematic medical examination of all members of the family of a consumptive be made compulsory.*

*Third, that more thorough disinfection and renovation be done not only after the removal or death of a consumptive but where the conditions are especially bad, at once.*

*Fourth, that more beds for advanced cases be provided at once in order that the most dangerous cases may be removed and permanently detained in a hospital, forcibly if necessary.*

3. *The Care of the Working Consumptives.*—In our scheme so far developed, comprehensive though it be, the working consumptive has been almost entirely disregarded. Just how large the class in Boston is cannot be accurately stated, but judging from general impressions of the work in home investigation made by the dispensary nurses it is one of considerable importance. It need hardly be stated that in the great majority of cases the responsibility of support of himself or family renders it imperative for him to work until the advance of the disease makes it no longer possible. The result is that the consumptive rarely comes under the supervision of the Consumptives' Hospital or a private physician until he has reached the stage of complete dependence, and the hope of improvement is greatly diminished. No argument is necessary to show the wisdom of reaching the victim before he reaches this stage. Aside from all humanitarian considerations, the prospects of economic returns to the community from money expended in the supervision and care of the working consumptive are much greater.

For those who have good homes, offering suitable conditions for the patient at night, and where satisfactory preventive measures can be carried out, an evening clinic at the Out-Patient Department would afford them the opportunity of continuing at work while under the direction of a physician. There are many working consumptives, however, living in boarding houses, or whose homes do not fulfill the above conditions, and where but little can be expected from treatment while permitted to continue to so live.

The night camp promises at least a partial solution of the question of how to improve the home conditions of this class. If the day camp for patients who have reached the stage where they are no longer able to continue at work has proved of such value certainly a night camp on essentially the same basis for those less advanced and able to work is most reasonable. The good results shown by the few camps of this nature already started in other cities is encouraging.



I would recommend:

*First, that the Out-Patient Department be opened one evening each week, and*

*Second, that the building of a night camp for working men with phthisis be seriously considered, either under the direct control of this department or through some private agency.*

4. *The Work among Children.*—From many quarters of recent years has come evidence of the frequency of tuberculosis in the early years of life, and of the prominence which this should be given in any organized crusade against the disease. It is now evident that tuberculosis in some form exists in infancy and childhood to an extent which seems almost incredible.

The most reliable evidence as to the frequency of infection in childhood is furnished by post-mortem studies, but from the vast number of reports published I shall quote but a few to emphasize the above statement. Kelynack cites the following figures of the percentage of children showing tuberculous lesions at autopsy: Harbitz, in Christiania, 42.5 per cent; Hamburger and Sluka, in Vienna, 40 per cent; Comby, in Paris, 38.5 per cent; Naegeli, in Zurich, 33 per cent. Grancher (Paris) says, "The great majority of children who come to autopsy in hospitals show tuberculosis of the bronchial glands, not recognized during life." Wallstein, pathologist to the Babies' Hospital in New York City, found that 12 per cent of all children under one year coming to autopsy were tuberculous; during the second year, 33 per cent, and in babies over two years, 34 per cent.

Dunn has combined all available statistics of the percentage of deaths among children dying in hospitals shown at post-mortem examinations to be due to tuberculosis:

First three months, 0 to 2 per cent.  
 Second three months, 16 to 17 per cent.  
 Second six months, 22 to 26 per cent.  
 One to two years, 42 to 44 per cent.  
 Two to ten years, 67 per cent.  
 Ten to fifteen years, 64 to 67 per cent.

It must be admitted that these statistics are for a special class, namely, the hospital cases, and therefore do not truly



represent the facts as to the actual prevalence of the disease in early life among all classes. On the other hand, we know that tuberculosis in childhood is in but a small percentage of cases fatal, except in the hospital cases from which the above quoted figures are taken, the majority surviving the infection, at least until later years. It therefore appears that the figures derived from pathological sources are not misleading.

From the clinical side we have abundant evidence on the question. The newer methods of diagnosis, *i. e.*, the various tuberculin tests, have placed in our hands more precise means for testing the presence of tuberculosis in children.

Williams examined 2,295 children in New York City and found pulmonary tuberculosis in 29 per cent. Among the school children in Paris, Roux and Jasserand found 40 per cent who showed signs of the disease. A similar study by Philip in Edinburgh gave 30 per cent. In the case of the children of tuberculous parents the percentages are even greater, *e. g.*, 51 per cent of 150 studied (Miller and Woodruff), 29 per cent of 322 (Sachs).

Accurate data relative to the location of the lesions of tuberculosis in children have forced us to entirely revise our ideas on this subject. While tuberculosis of other organs of the body is much more frequent than in adults, it is now an established fact that the pulmonary form predominates in early life as in the later years.

It was stated above that the disease is much less often fatal in infancy and childhood. In a majority of the cases of infection at this period of life the disease remains inactive, or actually latent, to become active later when for any reason the bodily resistance is lowered, as under the stress of school work or the strain of regular occupation in adult life.

It is not my purpose to enter into a discussion of the question as to the nature of the infection in childhood, *i. e.*, whether of the bovine or human type. While it seems probable that infection with the bovine tubercle bacillus is far more common in early life than in adult life, the weight of evidence is definitely in favor of the opinion that the great majority of cases are due to the human variety. The far

greater chance of infection in children in the home, considering their habits and the more intimate contact with other children, as well as their parents, is self-evident. It is further universally admitted that children, while more resistant to a fatal progress of the disease, are at the same time in a much greater degree susceptible to infection. School life in some manner not fully understood seems definitely to favor implantation of the tubercle bacilli.

Tuberculosis is not only the result of debility and poor development in children, but undoubtedly also the direct cause of disability and ultimate physical disaster in many instances.

The above presentation of facts leaves no question, I think, of the overwhelming importance of the direct attack on the disease during the early period of life, and of the application of every possible method of prevention. Professor Grancher says (quoted by Calmette): "For a long time I have been haunted by the leading idea of Pasteur's fine book on the 'Diseases of Silk Worms,' that in order to save the race that is threatened by an infectious disease, the best plan is to save the cocoon."

With few exceptions the propaganda against tuberculosis has taken little account of the disease in childhood. In the United States scarcely anything has until very recently been accomplished in this direction. To Germany, and more especially France, we must turn to study the results of special measures on a large scale directed against the scourge at this period of life. In 1903 Professor Grancher founded the "*Oeuvre de préservation de l'Enfance contre la Tuberculose*," designed to remove the children of tuberculous parents from the dangers of contagion and furnish care outside their homes and under a more favorable environment. This movement has spread throughout France and its great achievements are well known. The work of the "school colonies" and "seaside sanatoria" for children has also developed to large proportions. In all these the aim has been rather to build up the resistance of a large class of weakly and debilitated children, and thus in the surest way to protect them from infection, than to treat those with active



tuberculosis. Much along similar and other lines has been undertaken in Germany.

The past two years has seen the beginning of work along these lines in Boston, and its development since the last report of the Boston Consumptives' Hospital, though not great, is full of promise. The systematic examination of the children of tuberculous families has continued and the number of cases shown to be tuberculous or regarded as suspicious gives the most definite testimony to its importance.

The co-operation with the school nurses in the work of examining all suspicious cases found in the public schools has been most encouraging.

In July, 1908, the Boston Association for the Relief and Control of Tuberculosis opened a day camp on Parker Hill for children with closed or early open tuberculosis and those who, because of tuberculosis in the home or a weak constitution, were in danger of infection. In September the day camp was converted into an outdoor school to be carried on in conjunction with the School Department. So successful was this school that it was removed to the Refectory in Franklin Park and provisions made for extension of the work. The Boston Park Commission, realizing the great importance of this experiment after careful consideration of the subject with the School Committee and the association above referred to, consented to loan the Refectory building for one year.

Apropos of this work, in December, 1908, the Boston School Committee appointed a commission consisting of Drs. James J. Minot, chairman, Elliot P. Joslin, Thomas F. Leen, Cleaveland Floyd and Edwin A. Locke to "investigate the problem of tuberculosis among school children." The report of the commission makes the following recommendations:

"1. That a more systematic and thorough examination be made of all suspicious children and of all found to be of tuberculous parents.

"2. Those already infected they would divide into classes and make recommendation as given below.

"*Class I.* Those cases already well advanced which do not belong in the schools at all, as previously stated above.

"*Class II.* Less advanced, but definitely tuberculous, both open and



closed. Here the problem is primarily one of health, and education should be the secondary consideration if the two conflict. For these the commission would recommend outdoor schools, with the belief that by this means the child may be restored to health without loss of instruction. The outdoor school means a life in the open air, the proper and sufficient feeding of the child and the providing of suitable warm clothes, etc. The commission recognizes that the feeding of one group of children (the tuberculous) by the School Department introduces a new matter into the problems of that department and one fraught with serious difficulties. The commission would suggest that these children might be placed under the care of a hospital department which would furnish food, clothing, etc., as for any other patient, the School Department merely keeping school for them, and as is now done in connection with the Association for the Relief and Control of Tuberculosis. Indeed, the Boston Consumptives' Hospital Department now maintains a day camp, where many patients come every day, receive all their food, etc., and go home at night. The addition of a school for these, were they children, would seem proper and just.

"The commission regards the results obtained in the present outdoor school as most encouraging. The first of these schools in America was opened in Providence last year. This year a number have been opened, but none known to the commission, with the exception of the one in Providence, have as many pupils as the school at the Franklin Park Refectory.

"*Class III.* A large class, where the tuberculous process is not so evident or so advanced as to give rise to definite symptoms; the 'sickly' child, the 'scrofulous' child and many cases of closed but definite tuberculosis can be included here. This class needs care and management quite similar to the last, but not necessarily carried so far or so different from that of an ordinary school. These should remain entirely under the School Department. For them it would be wise to have in every schoolhouse an open-air room, where the windows were always open and where the consideration of health was given as much or more attention than that of learning.

"A child spends a large part of its life in a schoolroom. Strong and healthy children are those that have spent the most time in the open air. Life in the open air is the best investment one who is not strong can make. The nearer the schoolroom can approximate to the open air the larger will be the return to the city on its investment in schools. There would seem to be need in all schoolrooms of a more abundant supply of fresh air; of maintaining rooms at proper temperature, and the lower the air the better; of proper, sufficient and hygienic method of dusting, frequently done; of the frequent washing of rooms; of frequent and prolonged airing of all parts of the schoolhouse, and every means employed to the end that the place and air where the child spends so much of his life be as near as possible that of outdoors in a dustless region.

"Finally the commission strongly recommends that a further experiment with an outdoor school on a larger scale be tried next year, and that for this purpose some suitable building be selected."

The argument given above for the necessity and value of means for the protection of the children from infection who are in association with tuberculosis in the home is made more forcible by the history of a family selected from a considerable group recorded at the Out-Patient Department.

Father, aged forty-two years. Phthisis in a very advanced stage; sputum contained great numbers of tubercle bacilli.

Home investigation: Family of six living in three-room tenement, all sleeping in one room; conditions extremely bad; father a hard drinker, expectorating about the house; all efforts to improve conditions unavailing.

August 22, 1908, Cyril, aged thirteen years, phthisis, Stage I.

September 8, 1908, Wilmot, aged six and one-half years, pneumonia; regarded as suspected case.

November 3, 1908, Elsie, aged ten years, severe bronchitis; regarded as suspected case.

November 13, 1908, Ruth, aged twelve years, phthisis, Stage II.

Wilmot and Elsie at once removed from the home to a more favorable environment, and are now apparently in perfect health.

In view of the above I respectfully recommend the following:

*First, that further provisions be made for the care of children suffering from pulmonary tuberculosis in the early stage similar to those now afforded at the Wellesley Convalescent Home and the State Hospital School at Canton.*

*Second, that hospital facilities be furnished for children with open tuberculosis.*

*Third, that the Boston Consumptives' Hospital co-operate with the Boston School Committee in carrying out the recommendations of the commission appointed by the School Committee, quoted above.*

5. *Study and Investigation.*—The greatest interest has of late been manifested in regard to the best practical methods of combating tuberculosis. There seems to be a general agreement on certain premises, namely, that the keynote of any organized movement should be prevention, that it should be primarily under the control of and supported by the community. The value and relative importance of many methods, however, are in certain instances still largely a matter of opinion. To test the results which our work gives and to establish principles would seem to me to be the first



essentials in any undertaking of such importance to the community. Facts, and not impressions, should guide us. Proof, and not opinions, should measure the value of results. Our methods appear to be the best, our work to be effective, but are the methods the best,—is it not possible that our work should be even more productive of results? It has seemed to me that there has been an altogether inexcusable absence of this study in the case of the Boston Consumptives' Hospital thus far. Many important questions having the most direct bearing on various branches of our work have come up during the past year which cannot be answered.

During the past twenty-six years the death rate from phthisis in Boston has diminished 57 per cent, and yet the factors which have brought about the enormous reduction have not been seriously sought. A most thorough study should be made to determine if possible these causes, in order that they may be applied to the greatest advantage in further affecting the death rate and in co-ordination with additional measures. A complete survey of the distribution of tuberculosis in the city and its relation to social conditions is necessary to an intelligent plan of campaign. We have at present no precise knowledge of either the extent or distribution of the disease. Any worthy endeavor to uproot a pest of this nature must depend first of all on exact data regarding these. Once recorded, the condition and location of every consumptive should be constantly kept in available form until death.

The expenses of the investigations suggested would not be great, and could not be considered other than wise and legitimate expenditures. I would urgently recommend the following:

*First, that the matter of furnishing funds for the purposes above stated be considered by the Board of Trustees.*

*Second, that an expert social worker be employed by the Boston Consumptives' Hospital Department to study as many as possible of the social and economic questions arising in our work.*

*Third, that a comprehensive catalogue of all known cases of tuberculosis in Boston be made and permanently maintained.*



6. *The Physicians of the Community.*—The increasing co-operation in our work on the part of the physicians is encouraging, yet we believe it should be much greater. The purposes and equipment of the Boston Consumptives' Hospital are not generally appreciated by the local medical profession, and special efforts should be made to bring the work before them and to enlist their aid. Their attention should be called to the fact that in the Out-Patient Department is an equipment for the use of the most recent and precise methods of diagnosis and that the hospital welcomes any application from a Boston physician for assistance in this direction, and that no patient thus referred to the clinic will be placed under supervision there except by the request of the physician. The Boston Consumptives' Hospital is a municipal institution and is at the service of all Boston physicians. *I would recommend that a letter setting forth these facts be sent to every physician in Boston.*

7. *Increased Facilities Needed in the Out-Patient Department.*—Earlier in the report the needs of more room in the Out-Patient Department were emphatically stated. It was shown that very unfortunate delays constantly occur and that the efficiency of the work is constantly sacrificed as a result of the congestion there. Attention was also directed to the injustice to the laryngologists in consequence of the absence of operating facilities in the nose and throat department and to the unfortunate limitations thus placed on the usefulness of the clinic.

*I beg to present for your consideration the imperative need of a much larger Out-Patient building.*

In closing I wish to express to the trustees my grateful acknowledgment of their constant support and consideration for the needs of the staff.

Respectfully submitted,

EDWIN A. LOCKE,  
*Chief of Staff.*

SUPERINTENDENT'S REPORT.

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*To the Trustees of the Boston Consumptives' Hospital:*

The report for the year ending January 31, 1909, is hereby respectfully submitted.

Two thousand four hundred thirty-three new cases were treated at the Out-Patient Department, 13 Burroughs place; 279 patients were admitted to the Day Camp at Mattapan and 352 patients were admitted to various hospitals chargeable to this department. Four hundred twenty-two patients, too ill to come to the Out-Patient Department, were treated in their homes.

The large number of patients treated at the Out-Patient Department tax to the very extreme the capacity of the building, and the increased detail on account of the large numbers in a great measure handicapped the work on account of the overcrowded conditions. This was referred to in last year's report and still continues, being much more apparent because of the increased numbers who attend the clinics.

As the lease of the present building will expire in another year, serious consideration of this situation must be had during this year so that definite plans of remedy can be carried out as soon as possible.

The visiting nursing department in connection with the Out-Patient Department has done efficient work during the year. The scope of this work has been extended during the year and embraces now many more items than when first started. With the increase of work additions have been made to the staff and the districts have been reduced in extent in order to improve the quality of work done and to render more efficient the work of this department.

The laboratory has served as an overflow women's examining room as during the year previous.



Minor repairs have been made during the year in order to keep the building up to the standard.

The routine of the clinics of last year has been followed during the year without change. The practice of sending milk to patients in the homes has been continued during the year and has been of much benefit. Co-operation of charitable organizations and individuals has continued strong and active and has been of invaluable assistance in our work. It is much appreciated and we are extremely grateful.

The many responsibilities put upon the nursing staff have been accepted cheerfully and ably handled.

The patients have been sent to the Holy Ghost, Carney and St. Monica's Hospitals as during the year previous; 352 patients have been sent during the year. One patient has been cared for at the Sharon Sanatorium. The demand for hospital beds is ever increasing, and daily comes to our notice more strongly the absolute necessity of further hospital accommodations. To meet this demand the necessity of immediate hospital beds at Mattapan is the only solution.

The Day Camp opened July 7, 1908, and has proved of much value in the care and instruction of the ambulatory patient. That the Day Camp as an "all the year" institution for this class of patient is a practical working unit has been shown by the attendance during the cold months of winter, when the inconvenience of travel might well deter patients from attending. The monthly average attendance is as follows: July, 54; August, 60; September, 60; October, 58; November, 62; December, 65; January, 71. The low average for October, 58, is accounted for by the unexpected cold days during the latter part of that month, during which time the installation of a steam heating apparatus for the Day Camp was being made. A small steam boiler was placed in the basement which later on will be replaced when steam is brought to the Day Camp from the boiler house.

The work on the Cottage Ward, started in August, has been delayed to some extent by unforeseen difficulties, and the opening of this building must of necessity be postponed.

Last fall the stock and farming tools owned by Miss Conness, former owner of the estate, were purchased and definite



steps undertaken towards permanent organization of this department. The milk raised has been used in the Day Camp and has amounted to 8,000 quarts.

The portion of the farmer's cottage recently renovated is being used for the housing of female servants who work in the Day Camp; the nurses employed in the Day Camp go to their homes every evening, reporting in the morning. This will continue until quarters can be provided on the premises.

Sewer and water improvements have been made during the summer for the Day Camp and surrounding buildings, both present and future. This sewer does away with the many cesspools formerly used for barn and Conness House. The new water main supplies not only domestic service for the Conness House, barn, Day Camp, Cottage Ward and future buildings but also serves hydrants conveniently placed for the protection of these buildings in case of fire.

The work against the gypsy moth has been planned as follows: To creosote as far as it is possible the many nests on trees, buildings, stone walls, etc.; to burlap early in the spring all trees and to spray, if necessary. Work in the woods will include thinning out to a considerable extent such trees as may be necessary.

The work of the coming year must include improving the land drains which drain the lower level back to the small swamp west of the hospital site, and which now drains as a small brook to the lower level, emptying into the old stone drain which crosses the lower field. This drain dips under the River street sewer in a siphon which is too high to empty the drain completely, much of which is full of water all the time.

Plans are under way for the renovation of the Conness House to meet the immediate needs, and will afford temporary accommodations for some of the nurses and servants.

The herd should be increased and the barn renovated so as to accommodate this increase. Suitable pasture land should be provided for the herd for the present by hiring land now in the vicinity, and ultimately by utilizing portion of our woodland.

Many friends have contributed to the "loan closet" in

connection with the Out-Patient Department. These articles have been used in the homes of patients and include cots, tents, clothing, blankets, etc. They are gratefully acknowledged.

The city ambulances have served us in our many calls most cordially and promptly, and we acknowledge with many thanks their good work.

SIMON F. COX,  
*Superintendent.*

SUPERINTENDENT OF NURSES' REPORT.

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To SIMON F. COX, M. D., *Superintendent*:

During the past year the nurses of the Out-Patient Department have made 21,077 visits in the homes of 2,856 persons. The nursing staff has been increased from eight nurses at the close of last year to twelve nurses at the present time.

As the success of any out-patient department depends on the patients' faithful carrying out in the homes the advice and instructions given by the physician, the nurses' work in the home is a most important factor in the care and treatment of the patient. The ever-ready support and close co-operation with the medical staff have given to the home work an effectiveness seldom seen in out-patient treatment.

While the visiting nurse, always face to face with the problem of contagion, more frequently divides rather than unites the home, still many are those whose last illnesses are made more comfortable, with the danger of contagion reduced to nil, through her vigilance and resourcefulness.

During the year 422 patients too ill to come to the Out-Patient Department were cared for in their homes by the visiting nurses. The nursing care of these patients is a heavy tax upon the physical strength and sympathies of the nurses. Their faithful and splendid work cannot be too highly commended.

The unsanitary conditions of many tenement yards and alleys have been reported to the Board of Health by the visiting nurse, and 936 homes have been reported for disinfection after the removal of consumptive patients.

During the year a further subdivision of the city was made, and three new districts were formed. A nurse is assigned to each district. The districts are formed by combinations of wards. As the work increases the district boundary can easily be limited to the ward boundary, or further division of the ward can be made, if necessary.



The districts are as follows:

District I. . . . .	Wards 1, 2.
District II. . . . .	Wards 3, 4, 5.
District III. . . . .	Wards 6, 7.
District IV. . . . .	Wards 8, 11.
District V. . . . .	Ward 9.
District VI. . . . .	Wards 10, 12, 17.
District VII. . . . .	Wards 13, 14.
District VIII. . . . .	Wards 15, 16.
District IX. . . . .	Wards 18, 19, 21.
District X. . . . .	Wards 20, 24.
District XI. . . . .	Wards 22, 23, 25.

This allows one nurse for relief work on the district and regular work at the Out-Patient Department.

The nurses' fortnightly conferences have continued throughout the year and have been a source of much benefit to the nurses. Many thanks are due the speakers who have given their time in our behalf. It is only because of the limited room at the Out-Patient Department that we cannot extend these meetings to many who have expressed a desire to attend.

On the occasion of the Chelsea fire opportunity was given for our nurses to work with experienced relief committee, and many of our force volunteered their services. This experience was of much benefit to our nurses. Two of our nurses have been able to take a special course at the Boston School for Social Workers, in conjunction with their work in the homes.

The benefit of this course is already seen in the broader scope of their work in the homes. We hope that another year this course may be extended to a larger number.

Three of the nurses attended the International Congress on Tuberculosis at Washington, and derived much benefit.

Three volunteers have assisted in the home work during the year, and have been of much value to the nurse on the district.

The co-operation work between this and other agencies shows a great advance over the previous year. Individual work has been done with over seventy of Boston's charitable organizations, whose ready response to our appeals is appreciated and hereby acknowledged.

The question of relief forms an important part in the

management of almost every case and must be decided in conference with the charitable societies.

Many individuals have given generously to our "loan closet," and have provided 37 cots, 22 tents, 5 awnings, 7 reclining chairs, 2 hammocks, 1 wheel chair, 3 baby carriages, 3 sleeping bags and 40 pairs of blankets.

Through the generosity of the Brookline Tuberculosis Guild, the Needle Work Guild of America and others especially interested, clothing and bags were given to fifty-eight families at Christmas in addition to 196 baskets of fruit and other dainties from the W. C. T. U. Fruit and Flower Mission.

Co-operation of this kind is of immense value to the nurse as well as to the family, for as a nurse's usefulness in a community increases her interest becomes daily stronger.

The figures of the visits made to patients cared for tell nothing of the earnest, loyal work done by the nurses or the spirit of friendly confidence inspired in the patients.

The health of the nurses has been excellent, the aggregate number of days lost because of illness being forty-six.

There still remains much to do, and we enter the new year fully prepared to meet the problem because of the strong support and co-operation constantly at hand.

Respectfully submitted,

ELISABETH P. UPJOHN,

*Superintendent of Nurses.*

## FINANCIAL REPORT OF THE CONSUMPTIVES' HOSPITAL DEPARTMENT.

### EXPENDITURES FOR 1908-1909.

Appropriation . . . . .		\$75,000 00
Patients in hospitals . . . . .	\$28,691 15	
Salaries . . . . .	21,114 45	
Food . . . . .	9,167 58	
Medical supplies . . . . .	2,847 13	
Sewer . . . . .	2,279 74	
Farm and stock . . . . .	1,668 39	
Stationery and printing . . . . .	1,642 70	
Rent . . . . .	1,020 00	
Coal . . . . .	887 63	
Furniture and bedding . . . . .	863 41	
Repairs . . . . .	849 59	
Exhibit . . . . .	826 49	
Transportation . . . . .	513 22	
Telephone and messenger . . . . .	383 80	
Household supplies . . . . .	315 34	
Roads . . . . .	282 55	
Laundry . . . . .	259 47	
Insurance . . . . .	144 28	
Gas . . . . .	138 45	
Signs . . . . .	137 60	
Water service . . . . .	129 58	
Ice . . . . .	125 56	
Advertising . . . . .	109 24	
Soap, oils and wax . . . . .	104 10	
Express . . . . .	83 96	
Electric light . . . . .	19 70	
		74,605 11
Balance . . . . .		\$394 89
Income 1908-09 . . . . .		283 40
Total . . . . .		\$678 29

### EXPENDITURES FOR "BUILDINGS AND EQUIPMENT," 1908-1909.

Appropriation . . . . .		\$17,000 00
Building contract . . . . .	\$6,725 00	
Furniture and household supplies . . . . .	1,809 55	
Plumbing contract . . . . .	1,663 00	
<i>Carried forward</i> . . . . .	\$10,197 55	\$17,000 00



<i>Brought forward</i>	\$10,197 55	\$17,000 00
Heating contract (first payment)	1,343 00	
Water service	1,201 06	
Screens and awnings	528 68	
Architect's fees	411 66	
Roadway	336 33	
Refrigerator	187 00	
Edison Electric Company (pole installation)	105 38	
Towels and table linen	88 42	
Medical supplies	72 00	
Incinerator	63 45	
Hardware	63 00	
Advertising	49 15	
Fire extinguishers	48 00	
Printing	30 71	
Gurney Heater Company (hot water heater)	24 75	
Blueprints	11 54	
	<hr/>	14,761 68
Balance		<hr/> <u>\$2,238 32</u>

## HOSPITAL FOR CONSUMPTIVES.

Balance of appropriation	\$220,437 15
Appropriation, May 25, 1908	25,000 00
	<hr/>
	<u>\$245,437 15</u>

## EXPENDITURES.

Buildings	\$98,523 30
Balance unexpended	146,913 85
	<hr/>
	<u>\$245,437 15</u>

## INCOME.

Car tickets redeemed	\$17 20
Sale of medicines	266 20
	<hr/>
	<u>\$283 40</u>

## DONATIONS.

Mr. J. C. Abbott, \$279.07.\*  
 For car fares, \$5, a friend.  
 For car tickets, \$3, a friend.  
 For car tickets, \$1.50, a friend.  
 For rent, \$9, a friend.  
 For special patient, \$3, a friend.

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\* Mr. J. C. Abbott gave an entertainment which netted \$279.07. This money was put in private hands to be spent for the benefit of patients in the Out-Patient Department. With it beds, blankets, reclining chairs, tents, etc., have been purchased.

For special patient, \$5, a friend.  
 Six horse blankets, a friend.  
 Board and lodging for five days, a friend.  
 Board of patient at Mattapan Day Camp, \$10, a friend.  
 One window tent and magazines, a friend.  
 One Thanksgiving dinner, a friend.  
 Old linen, a friend.  
 Children's clothes and toys, a friend.  
 For special patient's care, \$20, a friend.  
 For board of child at Canton, eleven months, a friend.  
 Flowers every two weeks for patients, a friend.  
 Two hundred fifty-four persons remembered by friends at Christmas, toys and clothes.  
 Boston Young Men's Christian Union, 100 car tickets.  
 Woman's Christian Temperance Union, eight dozen eggs; plants and flowers throughout the summer and autumn months; Christmas baskets, 196; also many at Thanksgiving.  
 One baby carriage, Cripple School.  
 Flannel nightgowns and underwear, Mrs. John Stearns, Brookline.  
 Three Thanksgiving dinners, Dorchester Relief Association.  
 Clothes and one air cushion, Mrs. W. E. Riseman.

#### BROOKLINE TUBERCULOSIS GUILD.

Quilts . . . . .	8	Suit, woman's . . . . .	1
Nightgowns, flannel . . .	31	Shawls . . . . .	2
Nightgowns, children's . .	7	Reefer . . . . .	1
Nightgowns, men's . . . .	4	Tam-o'-shanter . . . . .	1
Pajamas, men's . . . . .	1	Stocking cap . . . . .	1
Combination suits, women's,	8	Wristers . . . . .	1 pair
Underclothes, women's . .	5 sets	Socks . . . . .	7 "
Underclothes, men's . . .	6 "	Stockings . . . . .	13 "
Underclothes, children's . .	6 "	Woolen gloves . . . . .	1 "
Flannel shirts . . . . .	2	Mittens . . . . .	6 "
Flannel petticoats . . . .	14	Shoes, women's, low . . .	2 "
Wrappers . . . . .	2	Shoes, boys' . . . . .	2 "
Flannel shirtwaist . . . .	1	Muffler . . . . .	1
Overcoats . . . . .	5	Bed slippers . . . . .	2 pair
Woman's coat . . . . .	1	Spats . . . . .	1 "
Hat, woman's . . . . .	1	Sweaters . . . . .	8
Golf cape . . . . .	1		

#### BOSTON BRANCH OF THE NEEDLEWORK GUILD.

Union suits . . . . .	4	Flannel nightgowns . . .	6
Undershirts . . . . .	6	Woolen gloves . . . . .	2 pair
Underdrawers . . . . .	2	Woolen bed slippers . . .	9 "
Flannel skirts . . . . .	5		

Patients in Hospitals, February 1, 1908, to January 31, 1909.

HOSPITAL.	Re- maining Feb. 1, 1908.	ADMITTED.			DIED.			DISCHARGED.			REMAINING.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Holy Ghost.....	46	147	133	280	75	52	127	61	61	122	30	25	55
Carney.....	10	28	24	52	14	9	23	14	15	29	5	4	9
St. Monica's....	5	1	19	20	1	4	5	—	14	14	—	5	5
Totals.....	61	176	176	352	90	65	155	75	90	165	35	34	69



## Nurses' Visits to Homes.

MONTHS.	Calls.	Number New Cases.	Number Home Cases.
February.....	1,744	380	36
March.....	1,627	308	32
April.....	1,604	204	26
May.....	1,713	227	24
June.....	1,669	118	28
July.....	1,757	239	37
August.....	1,491	219	35
September.....	1,358	202	21
October.....	1,735	227	34
November.....	1,754	247	35
December.....	2,362	232	46
January.....	2,263	253	38
Totals.....	21,077	2,856	422



